ATOMIC ENERGY PATENTS

HEARINGS

BEFORE THE

SUBCOMMITTEE ON LEGISLATION

OF THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-SIXTH CONGRESS

FIRST SESSION

ON

ATOMIC ENERGY PATENTS

APRIL 21, 22, AND 23, 1959

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ATOMIC ENERGY PATENTS

TUESDAY, APRIL 21, 1959

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON LEGISLATION,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C.

The subcommittee met at 2 p.m., pursuant to call, in room P–63, the Capitol, Representative Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Price, Aspinall, Van Zandt, Hosmer, and Bates; and Senators Anderson and Gore.

Also present: James T. Ramey, executive director, and David R. Toll, staff counsel, Joint Committee on Atomic Energy.

Representative HOLIFIELD. The subcommittee will be in order.

The Subcommittee on Legislation is meeting in public session this afternoon to commence hearings on atomic energy patents. In preparation for these hearings, the Joint Committee staff prepared and distributed in advance of the hearings two volumes of "Selected Materials on Atomic Energy Patents," to assist persons to prepare for the hearings. If anyone present in the room has not already obtained copies of these materials, they are available upon request to the committee staff.

On April 16, 1959, the AEC forwarded to the Joint Committee a proposed bill to amend certain sections of the Atomic Energy Act of 1954, as amended, with respect to patents and inventions. This bill will be considered by the subcommittee during these hearings, but we also hope to obtain overall reports from the AEC, the Patent Office, industry and public groups on atomic energy patent matters.

The Joint Committee, as early as last January, made numerous announcements that it would hold hearings on atomic energy patents this session of Congress, in April. The chairman of the Joint Committee, Senator Clinton Anderson, in a speech before the regional meeting of the American Bar Association on March 11 of this year in Pittsburgh, Pa., referred to the forthcoming hearings.

By press release No. 214 of April 9, 1959, mailed to the entire Joint Committee mailing list, and reported in numerous periodicals, the Joint Committee invited any interested persons to notify the committee staff if they desired to testify.

In response to these announcements and invitations, numerous associations responded. We heard from the National Association of Manufacturers, the National Rural Electric Cooperative Association, the New York Patent Law Association, the American Public Power Association, the American Bar Association, the American Patent Law Association, and the AFL-CIO.

By way of contrast, no request to testify has yet been received from any representative of industry, or any AEC contractor, large or small, except for one company, the Industrial Nucleonics Co., which is scheduled to testify at 11 a.m. tomorrow.

Does this mean that industry and AEC contractors are satisfied with the existing atomic energy patent laws? Does this mean that they have no patent problems?

I will draw no conclusions at this time, but I will only say that I am extremely disappointed that the subcommittee will not have the benefit of more testimony from representatives of industry and AEC contractors.

Although we are glad to hear from these many associations, the committee would also like to hear from people in industry who are working directly in the new atomic development field, as to whether or not they have had any practical problems with existing legislation.

The subcommittee may, therefore, desire to supplement these 3 days of hearings with a 1-day hearing sometime in May for testimony by industry and AEC contractors if the time of the subcommittee permits.

Our first witness today will be representatives of the AEC, Commissioner Vance, General Counsel Olson, and Mr. Roland Anderson, the Chief of the Patent Branch of the AEC General Counsel's Office.

At the outset, I would like to say that the committee staff has reported to me that the AEC staff has been extremely cooperative and helpful to the committee staff in preparing for these hearings.

Pursuant to my directions and those of Chairman Anderson, the committee staff, during the period of the congressional recess last fall, held a number of meetings in the committee offices and at the AEC to obtain information and to discuss patent problems with AEC staff personnel.

In addition, the committee staff has requested numerous reports and statistics from AEC which have been assembled and forwarded by AEC to the Joint Committee, which have been reprinted for the information of industry and the public in the Joint Committee prints on "Selected Materials in Atomic Energy Patents."

As I shall mention later, the U.S. Patent Office has not been quite as cooperative in allowing access to information in that office.

We are glad to have you here, gentlemen. I notice that your statement is divided into sections, and I suggest that committee members and staff members ask questions after each portion of this statement. Please proceed.

STATEMENTS OF HAROLD S. VANCE, COMMISSIONER; L. K. OLSON, GENERAL COUNSEL; AND ROLAND ANDERSON, CHIEF, PATENT BRANCH, OFFICE OF THE GENERAL COUNSEL, ATOMIC ENERGY COMMISSION

Mr. Olson. Mr. Chairman and members of the committee, the Commission, early last year, initiated a review of the patent sections of the 1954 Atomic Energy Act and its patent policies, and as a part of that review held a patent seminar on April 15, 1958, at which industry representatives and others presented views as to the patent sections of the act and the Commission patent policies.

In addition, the Patent Advisory Panel has reviewed certain phases of the program and the members each rendered separate reports to the Commission stating their respective views.

The minutes of the April 15, 1958 meeting, the separate reports of of the panel, and certain requested factual data have been submitted to the Joint Commitee and constitute a part of the material already published in the committee print.

The Commission transmitted to the Joint Commitee on March 16, 1959, a draft bill which would amend cartain sections of the act, together with an analysis of the proposed amendments. Both have been published in the committee print. The final draft bill was forwarded to the committee on April 16, 1959.

In order that the committee may obtain a general picture of the Commission's domestic and foreign patent policy and the basis for the Commission's legislative proposals, both will be briefly reviewed even though most of the data is already well known to the committee.

Those members of the Commission staff who are particularly familiar with the patent program are present and, with the committee's approval, I will present my statment in toto, after which we will be pleased to answer any questions the committee may have.

Representative HOLIFIELD. On each section here we would like to ask a few questions as we go along. The first question is please itemize and explain the differences, if any, between the March 16, 1959, draft bill before the Joint Committee and the final draft bill forwarded on April 16, 1959, after receiving comments of other agencies.

Mr. Olson. There were no substantive changes. Mr. Anderson, were there any technical changes?

Mr. ROLAND ANDERSON. Yes. In connection with section 153—I am sorry, 152—there was a parenthetical phrase in the original bill that was modified slightly. It said: "and therefore, no statement is necessary," and that was changed to "and accordingly no statement is necessary."

In one other place there was a change.

The first change, it might be noted, was at the bottom of page 2. In section 155, the phrase, in the second line from the bottom of page 4, "shall be cause for invalidating" was substituted for "invalidated." I believe these were the only two changes that were made.

Representative HOLIFIELD. So they were minor language changes and not substantive changes in meaning.

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. Is the April 16 draft bill unanimously supported by all five Commissioners?

Mr. OLSON. Mr. Vance?

Mr. VANCE. Yes, sir; they are.

Representative HOLIFIELD. The Commission has approved this statement of Mr. Olson?

Mr. VANCE. Yes, sir.

Representative HOLIFIELD. Thank you.

Let us go to the Commission contract patent policy and we will have questions after this. I think we might as well ask them to the particular section as we go through them, as they will be fresh in our minds.

Mr. OLSON. The Commission Contract Patent Policy: The Commission, as this committee knows, has pursued the policy in its funded re-

search, development and operating contracts of employing provisions under which the Commission is in position to acquire all rights in inventions and discoveries in the atomic energy field.

The contract patent clauses in use by the Commission have been generally referred to as the type A, B or C clauses. Under all three types of clause, the Commission reserves the right to retain title in all inventions or discoveries made or conceived in the course of, in connection with, or under the terms of the contract.

The Commission may acquire all rights in inventions under the type A clause. In instances where the contractor has an established industrial and patent position in the nonnuclear field, the clause employed provides for the contractor's retention of a nonexclusive—in the case of type B—or a sole—in the case of type C—license for purposes other than use in the field of atomic energy.

Section 152 of the 1954 Atomic Energy Act legislatively implemented this policy and made provision for the Commission's waiving rights in appropriate instances.

The Commission has exercised the waiver power where the services and materials of AEC are generally available to the public on a nonpreferential basis, such as—

(1) Inventions resulting from the sale or distribution of stable or radioactive materials, or for irradiation, and other services publicly available, 10 CFR 83;

(2) Inventions resulting from the use of the gamma irradiation facility at the National Reactor Testing Station, 10 CFR 83;

(3) Inventions resulting from access permits, 10 CFR 25.23b; and

(4) Inventions made under certain grants to educational institutions and training programs.

A General Counsel's opinion of February 1, 1956, concluded that a license from the Commission was not a contract, arrangement, or other relationship within the meaning of section 152.

Where the Commission supports research in a field where the contractor has already done some research, which we generally describe as a background position, the Commission also acquires a nonexclusive license for governmental purposes in such background contributions.

Where private parties use AEC unique facilities, provisions similar to the Commission's foregoing standard patent provisions are made applicable to such user. This, in brief, is the contract patent picture.

It should be noted that any atomic energy invention developed by a private party with private funds is subject to patenting by such private party the same as any other invention with one exception; namely, an atomic weapon invention. Atomic weapons inventions are specifically excluded from patenting under section 151a and b of the 1954 Act.

By waiver, the Commission acquires no rights in inventions or discoveries made by private parties that result from standard irradiation services or from employing isotopes or other materials sold or distributed by AEC.

Representative HOLIFIELD. Could the Commission use the waiver power in section 152 to waive all Commission rights under section 152 and thus nullify the statute?

Mr. OLSON. That thought has not entered my mind, Mr. Holifield. I would doubt that such an interpretation would be consistent with the legislative history. It certainly is clearly indicative on its face and in its history that there would have to be very specially meritorious circumstances to warrant departing from the general policy prescribed in the statute that the Commission is to get title.

I think that the use that has been applied indicates the attitude of the Commission; namely, the only general waivers have been with respect to licensees who obviously should not forfeit their patent rights simply by reason of acquiring a license or people who buy isotopes.

Incidentally, that is one of the things we have tried to straighten out in the language. I think that illustrates our understanding of this section.

Representative HOLIFIELD. On page 3, paragraph 2, speaking of background position, will this procedure be necessary if the AEC helps finance research and development on the General Dynamics-Philadelphia Electric proposal?

Mr. OLSON. Mr. Anderson?

Mr. ROLAND ANDERSON. In the proposed contract provisions that have been submitted, I believe there is provision for background general licenses for the Commission and also there is a special provision as respects research that was performed during a some 18-month period prior to January 1, 1959, where a determination was to be made as to those inventions which were made "completed" prior to the effective date of the contract, as to whether they would fall in the background or whether they would be considered foreground inventions.

Representative HOLIFIELD. Will you please explain for the committee what the word "completed" means to you in this sense?

Mr. ROLAND ANDERSON. Completed can have many meanings, I suppose. To a patent lawyer it would mean actual reduction to practice.

Representative HOLIFIELD. Would this mean reduction to practice and application for a patent, or could it also be said as meaning reduced to practice and withheld from patent application?

Mr. ROLAND ANDERSON. It could mean the latter, sir. I think when I said "completed" meaning actual reduction to practice, I am thinking of the invention having been completed, not the mere filing of an application. It is true under patent law, under certain doctrines set forth in interference practices, that the filing of a patent application is referred to as a constructive reduction to practice.

In the sense that we have used it here, I do not think we have meant to include within the term "made" or actually reduced to practice the term "constructively reduced to practice" as generally employed in the patent law.

Representative HOLIFIELD. In the case of the Philadelphia Electric-General Dynamics proposal, I believe in public testimony there was brought forth the fact that they had applied for some six or seven patent applications in the particular field of this gas-cooled reactor which they are proposing.

Also, that they intended to file for additional patents and they may have filed for some in the interim, as far as I know. Assuming that

they claim that they have a background position in this "completed" field, has the Atomic Energy Commission looked at these separate applications, either made or pending, to ascertain if their background position is in a position to be claimed as being in the completed stage?

Mr. ROLAND ANDERSON. I believe they made representation that they filed some 17 applications. We inquired from the company as to the privilege of examining those applications. They have accorded us the privilege of examining the applications. However, they have not furnished the completed information to give us the privilege of evaluating whether or not any of those 17 or all of those 17 have been actually reduced to practice as we have used the term today.

Representative HOLIFIELD. You can understand the interest of the committee in this point, because we are asked to put up some $14\frac{1}{2}$ million for research and development. It is entirely possible that patent applications may have been made in which there is an argument as to whether it is completed or not, and therefore, whether the background position has been established or not.

Also, if the Government furnishes this additional money for research and development, it might well be claimed by some that these moneys would be used to improve their background position or to complete positions which have not been completed up to the date of the signing of the contract.

Mr. ROLAND ANDERSON. I think a partial answer to that would be when it has been ascertained which of these 17, if any, have been completed, then they would fall within the purview of the background license provision.

The proposed provisions provide that any which it is determined do not fall within the background will fall within what is termed the foreground; namely, the type A, B, or C patent provisions of that contract.

Representative HOLIFIELD. All patents in the so-called type A classification would then fall under the regular provisions of Government rights which you have maintained in other contracts?

Mr. ROLAND ANDERSON. Yes, sir. We would take the title and be in a position to accord licensees as the Commission policy has been in the past.

Representative HOLIFIELD. Would your determination be made prior to the signing of the contract or afterward?

Mr. ROLAND ANDERSON. It is my understanding that the determination would be made prior to the signing of the contract.

Representative HOLIFIELD. Is that the understanding of the company?

Mr. ROLAND ANDERSON. I believe it is from information I have received.

Representative HOLIFIELD. Mr. Ramey?

Mr. RAMEY. You stated that you had not received all of this information on which to make your determination. How long will it take for you to get it? Is there any schedule on when you would complete this examination?

Mr. ROLAND ANDERSON. No, there is no time fixed. We asked them at the time the last hearings were held before the Joint Committee to furnish us this information. We communicated with their counsel, I believe, the last time was on March 24, noting the fact that we had

not received this information and we requested that they facilitate the furnishing of it to us.

I think it would be fair to say that we hope to get it within the next several weeks.

Mr. RAMEY. In the case of the Pennsylvania Power & Light negotiations, you had the same general situation. As I recall, a number of their applications—in that case it was by Westinghouse—were found not to have been reduced to practice and, therefore, would have come under the foreground rather than your background.

Mr. ROLAND ANDERSON. That is correct, Mr. Ramey.

Representative HOSMER. Would you please explain in this particular instance that you have been questioned about, assuming some kind of arrangement might be made with these people, who would determine whether any one of these 17 have been reduced to practice and, therefore, included or excluded from the contract?

Mr. ROLAND ANDERSON. Who would make that determination?

Representative HOSMER. Yes.

Mr. ROLAND ANDERSON. The Commission. In the initial instance, I suppose it would resolve upon the patent counsel of the Commission to make an initial recommendation to the General Counsel, and the General Counsel to the Manager, and finally the Commission would make the determination if there were any dispute about it.

Representative HOSMER. Then the Government is fully protected?

Mr. ROLAND ANDERSON. We deem it is fully protected.

(Subsequently the following letter was received from the AEC:)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 22, 1959.

HON. CLINTON P. ANDERSON,
Chairman, Joint Committee on Atomic Energy,
Congress of the United States.

DEAR SENATOR ANDERSON: The proposed General Dynamics contract for the performance of the research and development work for the nuclear powerplant to be built by Philadelphia Electric Co. will include patent provisions of the type outlined in the data sheet for this project. In part, the contract patent article relates to the disposition of inventions made prior to January 1, 1959, the date of commencement of Government reimbursement under the proposed contract. The draft contract provides for inclusion, as an appendix, a listing of those inventions which had been completed prior to January 1, 1959, and to which General Dynamics would retain title while giving a nonexclusive license to the Commission.

As you have been advised previously, General Dynamics had filed, prior to January 1, 1959, 17 patent applications arising out of its privately financed work on the high-temperature, gas-cooled reactor concept. Since submission of the data sheet to the Joint Committee, the AEC and General Dynamics have been endeavoring to agree upon which of the 17 patent applications should remain the property of General Dynamics. It should be recognized that the applications represent one important and potentially valuable result of the approximately $1½ million of work that General Dynamics expended and which the Government will not reimburse.

Today, General Dynamics advised the Commission that it is willing to execute a contract which does not include listing in an appendix of any of the 17 applications as having title remain with General Dynamics. This, in my opinion, represents a real contribution by General Dynamics and is indicative of the interest that the company has in this project.

The data sheet and the draft contracts which were given to the Joint Committee do not include the fields of established patent position of General Dynamics to which the exclusive "out field" license would be granted under the C-type clause. Attached is a statement of the listing which is proposed for insertion in the patent clause of the contract.

The only change in the language of the proposed patent provisions in the contract is in the second proviso of paragraph 1, article IX, where there has been incorporated, in addition to the nonexclusive license to General Dynamics, the right to grant irrevocable, royalty-free, nonexclusive licenses to member companies forming High Temperature Reactor Development Associates (HTRDA). This addition is deemed appropriate in order to assure the members of the HTRDA group of licenses as respects inventions made under this project.

Sincerely yours,

JOHN A. MCCONE, *Chairman.*

Representative HOLIFIELD. Now I refer you to page 47, volume I, of the Committee Compilation of Selected Material From Atomic Energy Patents, and on that page you find a chart which shows a trend in the filing of applications of atomic energy interest brought up to June 30, 1958.

You see there in the year 1957, which is the last year we have the full count, there were some 800 applications filed by privately owned, including a few by other governments, as against a little better than 100 filed by the Government.

What is your interpretation of that trend? Does that indicate that the Government is lax in filing for patent rights in view of the great difference that exists there?

Mr. ROLAND ANDERSON. I think the figures are a little misleading on this page. The Patent Office indicated we filed 121 applications in 1957. I don't know where they got that figure, because I think actually the Commission filed something over 240 applications that year.

In addition to that, a number of the applications filed by private industry, in the relative number of about 75, were filed by industry for or on behalf of the Government and the particular contractor. So that the figure would be more accurate, I think, if it reflected there were about 300 applications filed for or on behalf of the Commission on its contracts.

Even with that representation, there would still be some 600 or 700 applications filed by private industry, and this, I think, is as it should be. It shows the competitive spirit of American industry is starting to take over in the atomic energy field and certainly this is true in the instrument field, the chemical field and isotope field and fields other than possibly the basic reactor art.

Representative HOSMER. What was that last?

Mr. ROLAND ANDERSON. Basic reactor art. I might say even in that area there are a number of private companies who are filing extensively on components and apparatus in connection with certain basic reactors that were developed with and through Government funds.

Representative HOSMER. I understand your statement then is that mere numbers do not lead to any logical conclusion. You have to know what the applications cover.

Mr. ROLAND ANDERSON. Except they show an interest on behalf of industry in filing applications. As to the merits in numbers, I would agree that there is nothing significant as regards whether a man has 100 applications pending or just a few. It may be that the few are much stronger than the 100.

Representative HOLIFIELD. Would you care to further delineate and give us the reason why the Government filed between 240 and 300 applications in that period? What type of filings were made on the part of the Government?

Would you break that down, if you have the figures, into patents filed for as a result of sole activity in Government-owned laboratories and Government-paid scientists?

Mr. ROLAND ANDERSON. I think it can be said that approximately 90 percent of the applications filed by the Commission originate at some 14 installations or national laboratories of the Commission.

The breakdown of figures for 1957, as briefly shown on page 59, gives the general character of the applications that were filed in 1957. There were 91 in the field of chemistry and metallurgy; 18 in the instrument field; 3 in the isotope separations field; 32 were mechanical; 53 were electrical and miscellaneous applications in the electrical arts; 7 dealt with radio isotopes and 56 pertained to reactor arts.

That made a total of some 260 filed by the Commission in 1957.

Mr. RAMEY. On your filings by AEC, isn't a part of the numbers problem just in the workload that your patent staff can handle; that the 200 or 250 seems to have been a fairly consistent number for quite a few years?

Mr. ROLAND ANDERSON. This is partly true. It might be due to the number of staff representatives working on patents; on the other hand, it may also be due to the fact that the research and development activities have been taking a normal turn of events and have been about at the same rate for the last several years.

In addition, it might be said that as to the United States filings that have been taking place in the last several years, we have emphasized a great deal our foreign filing picture and have, therefore, had to expend a considerable amount of time and effort in filing on foreign applications.

I think in connection with the numbers, it could fairly be said that we do not file on every invention that comes in. We attempt to evaluate the invention on the basis of the use or contemplated use picture which the contractor and the facility who is overseeing or surveying the activity of that contractor deems to be worthy of use or contemplated use.

After the use picture has been examined, we then examine it from the point of view of prior art, as to whether or not it is new and novel over subject matter that has either previously been submitted to the Commission or on which applications have been filed by the Commission.

One of the things that one will notice now is that some places are reinventing some of the things that were invented in 1945 and 1946. This would be natural because we get new blood in. They get enthusiastic on a program. They will reinvent something that somebody else thought of years ago.

Representative HOLIFIELD. In other words, then you can tell the committee that the 600 to 700 applications by private industry have been scrutinized by the Atomic Energy Commission's Patent Division on reference to it by the Patent Office, and that they have concluded in those 600 to 700 cases that the Government's interest is not a basic or primary interest and, so to speak, have released those areas to the private patent applications?

Mr. ROLAND ANDERSON. No, Mr. Holifield. All that indicates is that there were purportedly some 600 or 700 inventions that arose out of private work which had no connection with the Commission's activities whatsoever.

Those figures of 600 or 700 may have to be adjusted somewhat on the downward side because there is probably about 100 that were filed in 1957 by private industry that were under actual contracts and we authorized the filing, and in the examination of the Patent Office figures they show up as private applications filed by A contractor, or B contractor, or C contractor, but he has filed them with the approval of the Commission and the rights have yet to be determined. The rights will be determined in accordance with the type A, B or C patent clause.

Representative HOSMER. May I ask, is most of this filing by the AEC more or less a defensive type filing?

Mr. ROLAND ANDERSON. The filing by the Government is more or less defensive.

Representative HOSMER. You mentioned some 600 or 700 filings in 1957.

Mr. ROLAND ANDERSON. Yes.

Representative HOSMER. How much overseas filing was there?

Mr. ROLAND ANDERSON. I think the figures were shown in this report.

Representative HOSMER. I mean in relation to that 500 or 600, roughly.

Mr. ROLAND ANDERSON. For the year 1957?

Representative HOSMER. Yes. Just an order of magnitude; that is all.

Mr. ROLAND ANDERSON. There were some 236 filings by the Commission in various foreign countries in 1957.

Representative HOSMER. So far as the domestic filings of a defensive nature are concerned, would you be assisted if there were some kind of registration and disclosure provision rather than the requirement that you go to patent?

Mr. ROLAND ANDERSON. Your suggestion is a possibility. If there were a law which permitted registration and the Government could register and get the same benefits as it could from a patent, provided that such a law gave the same effect to a publication and a registration as it gives to a valid patent.

Representative HOSMER. The same defensive benefit; in other words, prevent somebody from coming in later and obtaining a patent.

Mr. ROLAND ANDERSON. That is partly correct, except for this: There would be no means of determining whether or not the outside patentee who gets his patent, even though there is a publication, is actually first, because the publication may not have been released by the Commission for a year or 6 months because of security. If he had filed and secured his patent and there was no interference, then there would be no determination as to whether or not he actually was entitled to a patent.

That would not be determined in that kind of registration except when the man were subsequently sued in a court or when the Government was sued in the Court of Claims.

Representative HOSMER. If you set up your registration on a confidential basis and your disclosure at a later time, that would probably solve the problem.

Mr. ROLAND ANDERSON. That might.

Representative HOSMER. Would you recommend such a provision to cut down the workload?

Mr. ROLAND ANDERSON. I do not know if it would cut down the workload. I think that kind of recommendation has been made, and pending before the Government for several years. It has never received very wide acclaim or very wide acceptance by the patent bar or by industry or the Government for several reasons, possibly because it appears to be a provision that would undermine what is known as the normal patent system of the United States.

I think the patent profession is very conservative and generally speaking does not want to support the kind of legislation which would in any way tend to undermine what might be said to be the normal patent inventive system.

Representative HOSMER. It was my thought that since we deal with special patents in this field we might try the system out here and test its value.

Mr. ROLAND ANDERSON. I think another aspect of this is that I do not know whether it would work as respects foreign governments and foreign corporations and what effect that would have on the American system.

Representative HOSMER. It would not help on the overseas licensees.

Mr. ROLAND ANDERSON. No.

Representative HOSMER. The present patent system does not help that either.

Mr. ROLAND ANDERSON. No. The foreign private corporations are filing in the United States. They would file and get a patent rather than register. This is one aspect as to why the foreign picture would not be helped on that.

Mr. TOLL. Mr. Anderson, with relation to this chart on page 47, and your statement about the increasing number of private applications, would you say that indicates that there is increasing private participation in the atomic energy field?

Mr. ROLAND ANDERSON. I would certainly say it reflects great interest and a great deal of participation by private industry in the atomic energy field.

Mr. TOLL. And to belabor the obvious, that it is possible to get a private patent in the atomic energy field?

Mr. ROLAND ANDERSON. Yes.

Mr. TOLL. I think a great many people think, in the press and other places, that it is not possible to get a patent in this field, even if the invention is made under private sponsorship. Probably it should be emphasized that it is possible, and that private industry is applying for and getting patents in the atomic energy field.

Mr. ROLAND ANDERSON. I think this is very true, Mr. Toll. Possibly we have been neglectful in not publicizing the fact that private industry, as well as the Government, or anyone else, can secure a patent in the atomic energy field.

The only area where one cannot secure a patent is if the invention is in an atomic weapon as defined specifically in section 11(d).

Representative HOLIFIELD. Then we might well say that these figures prove that we are not stifling private enterprise as a result of the patent policy of the Atomic Energy Act.

Mr. ROLAND ANDERSON. In my opinion, it certainly reflects that, Mr. Holifield.

Representative HOLIFIELD. Could you give us some figures in regard to the number that other governments have filed? I notice on the

chart there is an area there which refers to other governments which have filed in the United States.

Mr. ROLAND ANDERSON. In 1947, the Patent Office chart would indicate—1957, rather—there were some 85 applications filed by other governments. I imagine that includes their own or controlled corporations.

Representative HOLIFIELD. You spoke of private people applying for patents which had already been established by prior art. In those areas, the Atomic Energy Commission points out to the Patent Office, do they not, that this prior art has been established?

Mr. ROLAND ANDERSON. We make available to the U.S. Patent Office all declassified publications as they are released and declassified. We have indicated and made available to them any classified art that they desire at any time in the course of prosecutions.

Representative HOLIFIELD. As far as you know, has the Patent Office granted any patents to inventors who were not aware of the prior art that had been established in Government laboratories?

Mr. ROLAND ANDERSON. I wish I were clairvoyant on that one. I am afraid I would have to say, Mr. Holifield, that I believe that patents are issued every day, where the Patent Office has not examined all the prior art and, therefore, they will issue a patent which, in effect, if it is sued upon, will undoubtedly be declared invalid by the court because the prior art will be brought out by the defendant. I think it probably is true in the atomic energy field, as in any other general patent field.

Representative HOLIFIELD. I am going to divide my next question into two parts. First, do you have any knowledge of where this has occurred in peacetime applications? Secondly, have there been any patents granted in the atomic weapons field either to private applicants in this country or to other governments which, in effect, are patent rights belonging to the government and under the prohibition of the section of the act which prohibits patents in that field?

Mr. ROLAND ANDERSON. I do not know of any instance where the Patent Office has issued a patent which was prohibited by section 151 (a) or (b); namely, a patent in the weapons field.

As to whether the Patent Office has issued a patent in the peaceful utilization of atomic energy which would be met by the prior art, I feel that upon close examination we could uncover art which would be very close to some of the patents that the Patent Office has granted. They may not have had available to them at the time of the issuance of the patent the prior art. The Patent Examiners are only human. They sometimes fail to uncover art that you and I might readily uncover upon close examination. So there could be cases where patents have issued and will eventually be held to be invalid in this field as in many other fields.

Representative HOLIFIELD. May I trace the procedure and ask you this: When a private patent application comes into the Patent Office, under the law, as I understand it, the Patent Office must refer that to the Atomic Energy Commission for scrutiny.

Mr. ROLAND ANDERSON. They refer the application to our office for security examination and information purposes under 151(d).

Representative HOLIFIELD. As far as you know, have they done that in all cases?

Mr. ROLAND ANDERSON. They have done that to the best of my knowledge. In some instances I would say, Mr. Holifield, they have not been as diligent in furnishing it as they could have been. But this one must consider is possibly due to the fact that they have some 900 examiners and, try as you will to get 900 examiners to refer and to channel applications which may be in the atomic energy field promptly to the division in the Patent Office responsible for this activity, it is sometimes difficult.

So whereas sometimes we would like to have them refer the application in 2 months rather than 6 months or 7 months, I say that they are diligent in referring them to us, but they could probably be a little prompter or more diligent in giving them to us in some cases.

Representative HOLIFIELD. The next question is, do they leave you enough time to scrutinize those patent applications before granting the patent?

Mr. ROLAND ANDERSON. Yes, sir. In most instances, as you know, a patent is not granted for 2 to 6 years after it is filed, even if there is no security involved.

Representative HOLIFIELD. Are there any further questions on this section of Mr. Olson's testimony?

Representative HOSMER. I have just one hypothetical question, Mr. Olson. Disregarding only the provisions of the Atomic Energy Act relating to no patents on weapons, assuming similar provisions were made generally applicable to patents in the United States, in your opinion would that decrease the number of patent applications?

Mr. OLSON. If I understand your question, sir, a parallelism there would preclude the issuance of patents at all.

Representative HOSMER. Forget the weapons field. Just say with respect to the various restrictions of general application.

Mr. OLSON. I am sure that the special provisions here, Congressman Hosmer, arose out of the special circumstances. I certainly would not be prepared to recommend that they be of widespread application in the normal areas of patenting.

In my mind, the special provisions are justified by the special circumstances that we find here in connection with atomic energy and the urgent desire of this country to bring it up to a high level of technological advance very rapidly.

Representative HOSMER. The point of my question is that there was testimony that these provisions here did not "stifle" patent enterprise in the atomic field. I was trying to see if you evaluated it and see if it was a considered answer or something else.

Mr. OLSON. I would be the first to say that I would not recommend a widespread application of these particular principles. I think in weighing the pros and cons that there is no present indication in my mind for a change at this particular date.

Representative HOSMER. In other words, we have factors in this field that we do not have in the general field?

Mr. OLSON. Yes, sir.

Representative HOSMER. That still does not answer my question.

Mr. OLSON. I would be very happy to answer it conversely. I think that application of these principles special to atomic energy generally in the patent field would be discouraging and a deterrent to progress.

Representative HOSMER. But they are no deterrent or no discouragement in the atomic field.

Mr. OLSON. As I tried to state quite frankly, I think they are, but it is a balancing of interests.

Representative HOSMER. It is the price we pay under the particular circumstances.

Mr. OLSON. Yes. I would not say there was no deterrent effect. You have heard many witnesses come before this committee and say there is a great deterrent effect. I feel in the balancing of the interests that this is the position that the Commission should take and adhere to.

Representative HOSMER. That is quid pro quo.

Mr. OLSON. Yes.

Representative HOLIFIELD. Under date of February 10, the staff was directed to send a letter to Mr. Rolander, assistant to the manager of the General Atomics Division of General Dynamics, in which a series of questions were asked.

I believe at this point, in view of the fact that their name has been brought into the testimony by the Chair, that we should insert in the record the questions, which were as follows:

What is the current patent situation?
What patent provisions will be proposed?
What are the international aspects of the patent situation considering work done in the United Kingdom on the same basic concept?
What about AEC patents on Rover and ANP work?

The answers to those questions are found on pages 8 to 11, inclusive, of their answer. In order that the record will be complete, we will introduce it into the record at this point without objection.

(The material referred to is as follows:)

4. (*a*) What is the current patent situation?

General Atomic Division of General Dynamics Corp. has taken active steps to file patent applications on inventions or discoveries which have arisen in the HTGR project. Seventeen applications covering inventions or discoveries which have arisen out of the HTGR project are now on file in the Patent Office. Two additional patent applications are presently under preparation and further applications are planned.

4. (*b*) What patent provisions will be proposed?

The patent provisions contemplated in the agreement to be consummated with the AEC are as follows:

(1) Under the AEC–PE agreement, AEC will be entitled to all rights to inventions pertaining to atomic energy and to inventions by PE employees in work paid for by AEC or conducted in AEC contractor facilities subject to PE and HTRDA and its member companies receiving nonexclusive, royalty-free licenses.

With respect to other non-atomic-energy inventions made by PE employees, AEC will retain a nonexclusive, irrevocable, royalty-free license. All subcontract patent provisions will be mutually agreed upon. The GD subcontract with PE for the supply of fuel and the GD subcontract with Bechtel for the nuclear steam generation portion of the plant will incorporate patent provisions similar to those in the AEC–GD contract for research and development.

(2) Under the AEC–GD agreement—

(*a*) AEC will receive a nonexclusive, irrevocable, royalty-free license for governmental purposes on such atomic energy inventions arising out of the GD supported work on this project during the period September 1, 1957 to January 1, 1959, as in fact have been reduced to practice (completed). Such inventions will be listed in an appendix to the contract and all other inventions or discoveries arising from said work shall be presumed to come under the terms of the provisions described in paragraph (*c*) below.

(*b*) AEC will also receive a nonexclusive, irrevocable, royalty-free license to make and use and have made and/or used throughout the world for governmental purposes in the manufacture and use of Government-owned or Government-operated reactor facilities, under any inventions or discoveries owned or controlled by GD or in which GD has the right to grant licenses without the obligation to pay royalties, which inventions or discoveries are incorporated into the PE nuclear power plant.

(*c*) AEC will receive all rights to inventions arising under the contract on and after January 1, 1959, except that GD will retain a nonexclusive, irrevocable, royalty-free license in in-field; GD also will receive exclusive out-field rights subject to a Government license on inventions in areas where it has an established patent position.

(*d*) On inventions and discoveries owned by GD and described in paragraphs (*a*) and (*b*) above, GD agrees to grant nonexclusive licenses for use in reactor facilities of a type similar to the PE plant on reasonable terms to responsible private parties upon AEC request. The Commission will make such request only when such inventions or discoveries are considered by the Commission to be necessary for the construction and operation of such reactor facility.

(*e*) AEC will grant to GD a nonexclusive, royalty-free license to make and use in the construction or operation of nuclear facilities of a type similar to the PE facilities, under any invention or discovery owned by AEC or in which AEC has the right to grant a royalty-free license (AEC assumes no liability to GD for infringement of patent rights of others in the manufacture, construction, use or operation of the PE reactor plant).

4. (*c*) What are the international aspects of the patent situation considering work done in the United Kingdom on the same basic concept?

The United Kingdom, of course, has been working for some time on the development of gas-cooled reactors. Their most recent work on these reactors has not been available to us. In order to determine the international patent situation, we have for some time been monitoring foreign patents in an effort to obtain the earliest possible information regarding the issuance of patents relating to gas-cooled reactors.

Our purpose in monitoring such patents is that we believe that it is likely that patent applications covering such inventions would also be filed in the U.S. Patent Office. Of course, the issuance of a foreign patent does not mean that it will be possible to obtain similar patent protection in the United States.

While we have found a number of foreign patents relating to gas-cooled reactors, these patents are all of limited scope and in the opinion of our counsel would not interfere with the contemplated project. The proposed reactor which is presently under development by General Dynamics is significantly different from that presently being developed in the United Kingdom.

While there are, of course, many basic similarities, we believe that these are likely to be in the public domain and unpatentable to anyone either in the United Kingdom or the United States. This judgment is based on the fact that the patents which have been issued in foreign countries and relate to gas-cooled reactors are narrow patents covering specific reactor details. We know of no patent which now prevents the construction or operation of the proposed nuclear plant.

4. (*d*) What about AEC patents on Rover and ANP work?

We do not know of any AEC patents on Rover and ANP work and we do not have information regarding patent applications on Rover and ANP work.

Representative HOSMER. Will that record then be available in connection with the authorization bill?

Representative HOLIFIELD. Yes. This would be the official record of the hearings and will be printed.

Mr. OLSON. Might we have the privilege of making an insert in the record with respect to the contract provisions on that particular matter, because they are not fresh in my mind and I was assured at the time that they were adequate to protect us. I am sure they are. But I would like to make an insert in the record if I could. (See p. 7 for AEC letter concerning proposed General Dynamics contract provisions.)

Representative HOLIFIELD. Yes, I think probably you should. If you do not have a copy of this letter, we will furnish it to you because

in this answer to what is the current patent situation, they say that 17 applications covering inventions or discoveries which have arisen out of the HTGR project are now filed in the Patent Office. Two additional patent applications are pending under preparation and further applications are planned.

I think you should have a copy of this also.

Mr. OLSON. Thank you.

Representative HOLIFIELD. If there are no questions, you may proceed on the next section of your testimony.

COMMISSION FILES FOR PATENTS—BOTH DOMESTIC AND FOREIGN

Mr. OLSON. The Commission has the right under the standard patent articles to determine whether or not and where a patent application may be filed. However, a provision is included in our contracts, upon request, that the contractor may file such domestic and foreign patent application as the contractor may deem advisable.

This does not affect title. Even where such a provision is not included in the contract, the practice of the Commission has been to request the contractor when reporting on inventions to indicate whether the contractor desires to file a patent application. Where the contractor does not file, the AEC files domestic and foreign patent applications on contract inventions where the filings are deemed warranted. The rights determination is not dependent upon who files. The Commission's patent articles includes a provision that all technical data becomes the property of the Commission, to be used by the Commission as it sees fit, so that the Commission may be in a position to fulfill its statutory responsibilities for dissemination of information under section 3 and 141b.

Section 3 specifically provides that the Commission is to disseminate scientific and technical information so as to "encourage scientific and industrial progress." Patent review is accorded technical reports before release to assure that patenting action on significant inventions is taken to protect industry and the Government before the reports are published.

Representative HOLIFIELD. Why should a contractor file a patent application in a number of foreign countries when you consider the expense involved without knowing whether he shall receive the benefit of those patent rights or the AEC?

Is there any recompense when he files a patent right in which the AEC claims?

Mr. ROLAND ANDERSON. If it is a C-type provision he would get exclusive outfield rights. This might warrant his filing. If it is a device which he is manufacturing and desires to import and wants to be assured that he is protected and not only looks to an exclusive position in that country, but looks to see that there is an application covering a device that he is going to import or use in that country, he may feel that the money spent in foreign filing is worth while.

Representative HOLIFIELD. Has this, in effect, been carried out?

Mr. ROLAND ANDERSON. This has been carried out. I think the record will show in the committee print at page 110 that as of last November there were some 211 applications that had been filed by contractors.

Representative HOLIFIELD. And how many by the AEC in the foreign field?

Mr. ROLAND ANDERSON. At that time there were some 1,206. At the present time there are something over 1,400 on file by the Commission.

Mr. TOLL. However, these filings by the Commission, that total figure—it should be pointed out for the record I think—that a large number of these, if you refer to the chart on page 109, were in Canada and Great Britain prior to 1955, and these rights, under the tripartite agreement, have been interchanged in those countries. If you subtract those substantial numbers, which probably are over 500, the Commission's filings abroad don't look as impressive.

Mr. ROLAND ANDERSON. This is correct. However, I think you have to take into consideration, Mr. Toll, that up until 1946 we were not permitted to file in any foreign countries on any classified subject matter.

There were only three countries at that time with whom the United States had agreements of cooperation as now known; namely, the United Kingdom, Canada and South Africa. Therefore, we were only permitted to file up until the establishment of the Atomic Energy Commission in 1946 in those three countries. Subsequent to the 1946 act, and up until the 1954 act, we were not permitted to file in any countries on any classified subject matter, which meant that we were not in a position to undertake foreign filings to any significant extent because the significant subject matter was still classified until 1954.

Upon the passage of the 1954 act, the picture changed and declassification took place very rapidly. There was the Geneva Conference in 1955 and there were some 3,000 or 4,000 documents that were processed for declassification then, and it was humanly impossible to file on any of that subject matter.

I think the figures have shown that since that time the Commission has filed on significant inventions because the information is now declassified and the peaceful uses of the atom are unclassified.

Mr. TOLL. Does the Commission have a large enough staff to supervise or carry out an aggressive policy of filing in 30 different countries abroad?

Mr. ROLAND ANDERSON. I think the staff has been capable of keeping just ahead in connection with its activities, and if we are privileged to receive the funds and additional personnel that we will be able to carry on just as vigorous a program as we have these past several years.

Representative HOLIFIELD. Is the AEC in a position to evaluate the value of an invention if the contractor does not desire to file?

Mr. ROLAND ANDERSON. We believe we are, Mr. Holifield, because before we foreign-file we write the contractor and ascertain from him whether or not he deems it worth while for the contractor or the Commission to file.

If he does not express any view, which oftentimes happens, we would go to the inventor and to the individual establishment and the AEC organization, which is responsible for conducting the work at that facility, and ascertain from them their evaluation of the value of that invention so far as they visualize the foreign program in the field.

With their recommendation, we, in the Commission in Washington, confer with the various divisions who are responsible for that type of work; if it is in the reactor field, with the Reactor Division, and if it is in the thermonuclear field, the Thermonuclear Division, to ascertain their views.

So we feel we have a composite view of the overall picture at the time we undertake the filings. This, of course, means that the filings are on a very selective basis. We do not file merely because someone thinks we ought to file a foreign application.

Representative HOLIFIELD. Where does the obligation lie within your organization to ascertain whether something needs to be filed or not? Does it lie in your Patent Division to go out and seek this information, or is there an automatic reporting provision required of the people in the field where the work is actually being done?

Mr. ROLAND ANDERSON. I think the responsibility rests with the Patent Division. The patent field representative has the responsibility to contact the organization in the field first, and when he transmits that information initially to the Commission, which he usually does, we get it at that time.

I don't believe it can be said to be a contractor responsibility. It is fully a responsibility of the AEC Patent Branch.

Representative HOLIFIELD. You feel that is working satisfactorily, that the people in the field are diligent and that they are reporting in a satisfactory manner for the Government's interest, such occasions as do arise for patenting?

Mr. ROLAND ANDERSON. Yes, sir. You have to remember also that the contractor has the initial responsibility to promptly report inventions.

Representative HOLIFIELD. Yes.

Mr. ROLAND ANDERSON. They would come in in the ordinary course of events and then be evaluated in the local area on the field level for both domestic and foreign filing, and then come to Washington for final evaluation.

Representative HOLIFIELD. I could see where if a contractor did not fulfill his obligation and waited until after his contract was finished and some time later developed the patent in his own shops, that he would be in a position of claiming an equity there which, in effect, belonged to the Government, which could have been protected if the Government employee had the obligation to report to you patentable developments.

Mr. ROLAND ANDERSON. In addition, we take an initiative as respects the reporting of the inventions by the examination of notebooks, by the examination of the technical reports that are rendered, and if upon review of those there is an item that appears to be of patentable interest, we will have the AEC field patent representative confer with the supervisor and with the contractor's representatives, if necessary, to ascertain the status of a particular item.

So we hope that we are covering within the realm of possibilities those things which should be reported. I think it fair to say that our contractors in most instances are very diligent in reporting inventions.

Representative HOLIFIELD. In case the AEC decides not to file and there is a difference of opinion between the contractor and the AEC, once the AEC makes that decision, the contractor is then free to go

ahead and on his own, file for a patent and pay his own patent rights and acquire that equity; is he not?

Mr. ROLAND ANDERSON. He is. But the determination of rights would still rest with the Commission, even if he files.

Representative HOLIFIELD. That determination might be made after the filing?

Mr. ROLAND ANDERSON. Yes.

Representative HOLIFIELD. Even though the AEC had refused to file?

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. It doesn't seem quite fair to the contractor.

Mr. ROLAND ANDERSON. Sometimes the reason we do this is as follows: If we already have an application on file there is no necessity to authorize a second application. We would not file on a device that is already the subject of a patent application filed 2 or 3 years before. His man still would like to file.

He says, "I would like to satisfy the whims of my man because he is a big man in the organization," and we say, "Feel free to file, but we will not release our rights until it has been allowed."

Representative HOLIFIELD. Mr. Toll?

Mr. TOLL. Mr. Anderson, on all your contracts you have provisions requiring contractors to report inventions to you; is that correct?

Mr. ROLAND ANDERSON. Yes, sir.

Mr. TOLL. Do you have any statistics indicating that of the total number of inventions reported to you, what percentage the Commission decides to file applications for a patent?

Mr. ROLAND ANDERSON. I believe we have as of this time received approximately 19,000 invention reports. We have pending and have filed some 6,400 applications. We have under review (of those 19,000) probably 500. So it appears that a rough figure would indicate that we file applications on about one out of every five inventions that are reported.

Mr. TOLL. I am not sure I follow your arithmetic there. You have 19,000 reports. What was the 6,400 figure?

Mr. ROLAND ANDERSON. About 6,400 have been the subject of a patent or a patent application.

Mr. TOLL. By you or by the contractor?

Mr. ROLAND ANDERSON. Either by us or the contractor. We have 1,800 patents issued to date. We have about 3,500 applications pending. That is about 5,300, is it not?

Representative HOLIFIELD. 5,300.

Mr. ROLAND ANDERSON. 5,300.

Mr. TOLL. What happens to the 12,000-plus discoveries that are reported to you that no application is filed on by anybody? Is this technological information made public to industry so that regardless of whether or not any patent rights are involved, that people can use it?

Mr. ROLAND ANDERSON. Yes. Most of that information is incorporated in technical reports that have been disseminated in one fashion or another.

Mr. TOLL. Is there a possibility that when a patent application is filed, the information, so to speak, goes out of sight for 4 to 6 years?

It is kept confidential in the Patent Office. Nobody knows what is in there.

Does this tend to slow down the process more than speed it up? Does industry get more benefit from the information which nobody wants to patent than the information that the people file applications on?

Mr. ROLAND ANDERSON. I do not believe so, Mr. Toll, because again most of the information that is incorporated in the patent application has already been released or releasable in some form, either in a technical report or a drawing or blueprint that has been made available under the Office of Technical Information Services program.

Mr. TOLL. But the patent application itself, whatever reasoning it may have?

Mr. ROLAND ANDERSON. It is not made public until the time the patent goes to issue.

Mr. TOLL. That is true on AEC applications as well as private applications?

Mr. ROLAND ANDERSON. Yes, sir. The technical information of course has already been released.

Representative HOLIFIELD. It would be true of anything except classified patentable ideas in the weapon field.

Mr. ROLAND ANDERSON. That would be true of unclassified information because as Mr. Toll says, until the patent goes to issue, the application is considered to be confidential between the Patent Office and the inventor or his representatives or his assignee.

Mr. TOLL. As far as the AEC information is concerned, the Commission never collects any royalties. It only makes these patents available to others to use. Tying in with Mr. Hosmer's suggestion, might it be a good idea just to obviate this four- to six-year delay and publish this information right away rather than going through the patent route.

What good does it do you to get a patent?

Mr. ROLAND ANDERSON. The technical information we hope is published. It is the preservation and creating of a monopolistic position through the patents, whether it be Government or private industry, that you are attempting to protect when you get your patent.

The technical information we hope is all released before the patent comes out. The patent describes the invention and then claims the subject matter that is new. In so claiming it, it becomes available under our program for all industrial use.

Representative HOSMER. Isn't it a fact that if you tried to commingle a patent procedure with a declassification procedure you would have an administrative impossibility?

Mr. ROLAND. You would have what?

Representative HOSMER. An administrative impossibility?

Mr. ROLAND ANDERSON. You certainly would. On the other hand, we attempt to review the technical publications for patentable items before they are declassified and before publications are released in order to assure that the patent position, if there is any to be established is covered by a filed patent application before the publication is released.

Representative HOSMER. You could not split this declassification between you and the Patent Office?

Mr. ROLAND ANDERSON. No.

Representative HOSMER. Nor would it be advisable to have two sources from which this information is flowing?

Mr. ROLAND ANDERSON. I think that is correct.

Representative HOLIFIELD. Proceed, Mr. Olson.

COMMISSION LICENSING POLICY

Mr. OLSON. The Commission, under section 156 and 161g has authority to grant licenses on terms and conditions as deemed appropriate. Under these sections, the Commission has pursued the policy of granting nonexclusive, revocable, royalty-free licenses on its United States patents to all, and to United States industry on its foreign-owned patents—10 CFR 81. The Commission has not determined the terms and conditions under which it will accord foreign industry licenses on Commission-owned foreign patents.

The Commission, pursuant to section 153, has authority to declare patents affected with the public interest and to grant licenses on private patents of "primary importance" to the production or utilization of special nuclear material or atomic energy where the licensing is of "primary importance" to implement the policies and purposes of the Act.

This power, as the Commission has expressed to this committee on several occasions, is considered a "reserve power." It has not been employed to date by the Commission, nor has any person authorized by the Act to employ the compulsory licensing procedures initiated any action to invoke the section.

Representative HOLIFIELD. Is this because there has not been anything of primary basic importance such as the Fermi patent rights established in the last few years?

When we wrote this into the Act, we wrote it into it for the express purpose of preserving to all the American industry a complete right to utilize any technology which has been developed by tax moneys.

Mr. OLSON. That is right.

Representative HOLIFIELD. And to prevent a monopoly occurring in any field in the reactor art, and yet this section has never been used. It either is a section which is impractical or there has not been anything invented which would come under that classification.

Mr. OLSON. I think our feeling at the present time is that the Commission owns very many substantial patents, as you know.

Representative HOLIFIELD. Yes.

Mr. OLSON. I think it is fair to say that up to this date that neither we or anyone who is eligible to use these procedures has been of the opinion that such a patent exists on the outside. Of course, there is no time limit on our using this authority. It may be that at a later date that such a patent now in existence will become of primary importance, but we have lost no rights with respect to that matter.

Mr. RAMEY. We asked the Commission for a supplementary statement on what procedure you use on reviewing private patents to see whether or not you should declare them affected with the public interest and so on, and received an answer to that.

(The information referred to appears on p. 79.)

Mr. RAMEY. In your review of your patent applications to see whether or not the Commission should act, have there been applications that might be termed to be marginal; that is, they look to have some importance and then you sort of sift them and make up your mind finally that you didn't think you should take title but that they are of some importance, but not of primary importance?

Mr. ROLAND ANDERSON. Are you speaking of issued patents to date?

Mr. RAMEY. Yes.

Mr. ROLAND ANDERSON. I think on the issued patents we have found none in which we would desire to invoke the privileges of section 153. There has been, as Mr. Olson said, no private industrialist who has felt that there has been any patent that has interfered with his activity where he would desire to invoke it.

As to what we might contemplate arising in the future, I think it can be said that there are several applications that are pending that might be the subject of such action at some later date, depending upon whether or not they are employed by private industry or by the Government.

Representative HOLIFIELD. Of course, if such a case does develop, it is the AEC's policy to immediately step forward and to utilize this section of the Act?

Mr. ROLAND ANDERSON. If that became necessary, I think the Commission would act.

Mr. RAMEY. Would this apply to controlled thermonuclear inventions as well as nuclear reactors?

Mr. ROLAND ANDERSON. It would under the definition of atomic energy as now embraced in section 11 of the Atomic Energy Act, I believe.

Mr. RAMEY. Does the Government have as basic a position in the controlled thermonuclear field as it does in nuclear reactors?

Mr. ROLAND ANDERSON. The Commission has filed a considerable number of applications in the thermonuclear field. There were some private contributions in the thermonuclear field at a very early date which are privately owned, but in which the Commission has acquired license rights for the Government.

Representative HOLIFIELD. Will the counsel point out in the Atomic Energy Act the language which he construes as covering the field of thermonuclear energy as well as nuclear fission?

Mr. ROLAND ANDERSON. In section 11(c), "The term 'atomic energy' means all forms of energy released in the course of nuclear fission or nuclear transformation," and it is the latter phrase which I believe, although the technical people would be better qualified to speak, is deemed to cover the fusion field.

Representative HOLIFIELD. Mr. Olson, do you agree with that interpretation of the word "nuclear transformation" or do you feel that should be clarified?

Mr. OLSON. I would have to defer to Mr. Anderson in this particular area, but offhand I would certainly see no objection to the interpretation he has given. It is a pretty broad phrase, nuclear transformation.

Representative HOLIFIELD. You may proceed.

THE BASIS FOR COMMISSION POLICY

Mr. OLSON. It has been the general commercial and industrial policy for many years to acquire the rights in inventions that result from industry sponsored and funded research and development work.

Furthermore, most industry has pursued the policy of acquiring rights in inventions of its employees. The policy of the U.S. Government has not been uniform. The Defense Establishment has, under its research and development contracts, acquired only a non-exclusive license for governmental purposes.

The Department of the Interior, the Department of Agriculture, Federal Aviation Administration, and others, including the AEC in the atomic energy field, have pursued the industrial policy and acquired greater rights.

It is the Commission's view that where the Commission sponsors and pays for the research and development, the resultant inventions and discoveries should be the property of the Government for the benefit not only of the particular contractors, but of the general public.

This policy of the acquisition of all rights in the atomic energy field has permitted the Commission and the Government generally complete freedom of action to disseminate scientific and technological atomic energy information prepared and developed under Commission contracts.

The ownership of the rights in the Commission has avoided the granting of special privileges in the discoveries and inventions in the atomic energy field and the establishment of preferred positions by its contractors.

One of the present effects of the AEC patent policy is that all unclassified technological and scientific information prepared and developed by the Commission and its contractors is available to every company presently engaged in atomic energy work.

Everyone is entitled to use the scientific and technical data and the inventions and discoveries that have resulted from Commission contracts. This utilization of technology would not be possible under a program that provided only for royalty-free use by the Government.

An example is the raw materials field where the processes employed were developed by the AEC and made available to all, with a resultant downward price trend of real significance. You will recall that the 1947 report of the Attorney General, after the comprehensive review of Government policies and practices, stated:

> As a basic policy, all contracts for research and development work financed with Federal funds should contain a stipulation providing that the Government should be entitled to all rights to inventions produced in the performance of the contract.

Some have asserted that the time is past when a few contractors can secure a preferential position with respect to technology or patents by virtue of being AEC contractors. It is believed that the possibility for preferred positions still exists.

While the AEC has a large number of contractors, both large and small, most of the programatic research and development is performed by relatively few contractors. Today approximately 90 percent of the inventions reported under Commission contracts have been reported by some 14 Commission contractors.

Representative HOLIFIELD. I want to pause here to say that I am very pleased with the position that you have taken in your statement on this particular point, because this was the point that was of considerable concern to us in the enactment of the 1954 act.

It was the feeling of the committee at that time that there was a possibility of undue advantage going to a few contractors who had participated and had been paid for their services, incidentally, in the atomic energy field, with public moneys.

We felt that the protection of the right of all American industry, including those segments of the American industry who had not had the privilege of participating through contracts with the AEC, that these advantages should be transferred to the whole segment of American industry rather than just a small part of it.

I am very pleased that you are still looking at this point of protecting all of American industry, rather than a few who have been fortunate to have contracts.

Mr. OLSON. Initially, much was said about atomic energy being a unique field and that special considerations warranted the patent policy that has been pursued in the atomic energy program. That atomic energy is still a unique and special field is evidenced in that—

(*a*) One cannot transfer source material or byproduct material without a license (secs. 61 and 81);

(*b*) The Commission is owner of all production facilities (section 41) except the Commission may license certain production or manufacturing facilities (secs. 103 and 104); and

(*c*) The Government is the owner of all special nuclear material (section 52).

While return to what has been characterized as the normal patent system may be desirable, unique aspects of atomic energy, in the opinion of the Commission, warrant continuation of special patent provisions in the Atomic Energy Act as modified by the Commission's proposed amendments to the patent sections of the 1954 act.

THE INTERNATIONAL PROGRAM

The international picture must also receive attention in considering the patent policy of the Commission. The President's Atoms For Peace program has involved many countries. The AEC has implemented the program by negotiating a considerable number of bilateral agreements, by negotiating the EURATOM agreement of cooperation and by participating in the establishment of the International Atomic Energy Agency. All of these programs look to government direction, participation and financial sponsorship.

The AEC secured all rights in U.S. patents on applications filed by the British and Canadian Governments prior to November 15, 1955, and similarly has been able to negotiate provisions in the EURATOM and bilateral agreements continuing reciprocal patent agreements and assurances of nondiscrimination.

The predecessor of the Commission, the Manhattan Engineer District, had filed foreign patent applications in Canada and Great Britain pursuant to the wartime agreement. However, after the passage of the 1946 Atomic Energy Act, no foreign filings on significant and important atomic energy contributions was possible since under

said 1946 act the transmittal of classified information to foreign countries was not permitted, and significant and important inventions were still classified.

Subsequent to the 1954 Atomic Energy Act, in which nonmilitary nuclear technology was declassifiable and classified bilateral agreements were authorized and negotiated, the Commission reactivated the program of filing abroad on significant inventions where warranted. The Commission has filed over 1,400 foreign patent applications and contractors have filed something over 200. The filings were detailed in the report of December 4, 1958, to this committee.

Foreign industry and foreign governments are pursuing an active domestic and foreign filing program which may similarly affect the U.S. industrial position. However, U.S. industry is not only filing for domestic patents, but for foreign patents on privately developed inventions and discoveries, so that the U.S. Government and U.S. private industry together should be in a position to protect the overall U.S. position.

To date, so far as it is known, no private party or contractor has been denied the right to file a patent application in the United States, and except for security requirements, no contractor or private party has been denied the right to file any foreign application.

Furthermore, in every case that has been brought to the attention of the Commission, where a contractor determined the filing of a foreign application would be desirable, but the contractor did not desire to undertake the filings because it was not accorded an exclusive position, the Commission, after review of the subject matter, has undertaken filing upon agreement with the contractor as to the countries warranting filing action.

One of the initial objections of industry to the Commission's program was that a considerable amount of technological information was being published without foreign patent protection having been taken. While patent review was one of the steps in the declassification of documents, it was recognized that a considerable amount of important technological information was being born unclassified under the declassification program.

To meet this situation, a program of prepublication review was initiated. Under such present prepublication system, patent review is accorded technical unclassified documents so as to assure early release of information and at the same time permit of the filing of domestic and foreign patent applications to minimize the loss of domestic and foreign patent rights.

Representative HOLIFIELD. Before I question you on the international program section, I did have a few questions on the previous section of your testimony. I would start off by saying that the Defense Department has a different type of patent policy with its contractors than the Atomic Energy Commission.

Mr. OLSON. That is right.

Representative HOLIFIELD. Roughly speaking, the Defense Department permits its contractors to file patent rights with only the provision that the Government may use these patents if they wish to use them.

My particular opinion—and this is a personal opinion I express—the American Government has paid for hundreds of millions of dol-

lars of research and development which has been patented by private contractors for their own benefit and the Government itself has not protected the taxpayer in those rights. That is a personal opinion that I am constrained to express.

Taking into consideration the policy of the Department of Defense—its limited policy—of retaining patent rights in certain fields of research and development and applying that to the atomic energy development, and if we had used the same patent law that the Department of Defense uses, would it not have been possible for some of the prime contractors such as Westinghouse, General Electric, North American, Du Pont, Monsanto, and others of the 14 primary contractors, to have filed and been granted patents over the past 15 years which would have given them almost a monopoly position in the industry.

Mr. OLSON. I think that is true in our atomic energy field.

Representative HOLIFIELD. Can you itemize, and you do not need to do it now, the 14 contractors who have reported 90 percent of the inventions? I believe you referred to that previously.

Mr. OLSON. We would like to submit that for the record, please.

Representative HOLIFIELD. I think those are my only questions on that particular section.

(The information referred to follows:)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., April 22, 1959.

Hon. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation, Joint Committee on Atomic Energy, Congress of the United States.

DEAR MR. HOLIFIELD: Pursuant to the request at yesterday's hearing there is submitted herewith a list of the 14 corporations that have contributed approximately 90 percent of the inventions reported to the Atomic Energy Commission by contractors.

Associated Universities including Brookhaven National Laboratories
Columbia University
General Electric Co. including Knolls Atomic Power Laboratory, Hanford Atomic Products and Aircraft Nuclear Propulsion Department
Iowa State College
Monsanto Chemical Co. including Oak Ridge National Laboratory and Mound Laboratory

North American Aviation, Inc.
Phillips Petroleum Co.
Tennessee Eastman Corp.
Union Carbide Nuclear Co. including Oak Ridge and Paducah
United Aircraft Corp. including Pratt & Whitney
University of California including Lawrence Radiation Laboratory at Berkeley and Livermore, and Los Alamos Scientific Laboratory
University of Chicago including Metallurgical Laboratory and Argonne National Laboratory
Western Electric Co. including Sandia
Westinghouse Electric Corp. including Bettis Plant

Sincerely yours,

L. K. OLSON, *General Counsel.*

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
May 4, 1959.

Mr. L. K. OLSON,
General Counsel, Atomic Energy Commission,
Washington, D.C.

DEAR MR. OLSON: Congressman Holifield has asked me to thank you for your letter to him dated April 22, 1959, listing the 14 corporations that have contributed approximately 90 percent of the inventions reported to the Atomic Energy Commission by contractors.

Congressman Holifield has requested that this list be further broken down to indicate the number of inventions made each year by each one of these 14 corporations. If possible, it is requested that this information be submitted by May 15, 1959.

Sincerely yours,

JAMES T. RAMEY, *Executive Director.*

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 15, 1959.

Mr. JAMES T. RAMEY,
Executive Director, Joint Comimttee on Atomic Energy,
Congress of the United States.

DEAR MR. RAMEY: Pursuant to the request in your letter of May 4, 1959, to Mr. L. K. Olson, General Counsel, there is submitted herewith a table showing a breakdown by years of the number of invention disclosures reported each year to the Patent Branch, Office of General Counsel, Atomic Energy Commission and its predecessor, Manhattan Engineer District, for years 1943 to 1958 inclusive as respects the 14 contractors enumerated in Mr. Olson's letter of April 22, 1959, to Congressman Holifield.

Sincerely yours,

EDWIN E. FERGUSON,
Acting General Counsel.

Inventions reported, 1943 through 1958

	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	Total
Associated Universities including BNL					5	36	43	17	16	3	1	13	16	10	15	27	202
Columbia University	111	31	92	93	65	22	9	2	6		6	2	6	4	1	1	451
General Electric Co. including KAPL, HAPO, and ANP			4	5	25	134	578	179	129	142	206	215	244	395	304	329	2,889
Iowa State College	39	50	46		2	15	10	12	7	9	14	8	10	8	11	19	260
Monsanto Chemical Co. including ORNL and Mound Laboratory	1	3			36	179	9	11	28	7	6	11	12	1		1	305
North American Aviation, Inc						10	3	17	18	11	45	7	25	32	61	32	261
Phillips Petroleum Co											19	39	58	42	47	46	251
Tennessee Eastman Corp		64	51	72	95	27	1	1									311
Union Carbide Nuclear Co. including Oak Ridge and Paducah	1		3	8	143	57	88	115	149	108	135	115	77	144	121	77	1,341
United Aircraft Corp						1		103	12			65	56	59	114	97	507
University of California including Los Alamos and LRL at Berkeley and Livermore	121	210	440	485	157	130	164	43	84	73	113	116	183	112	142	105	2,678
University of Chicago including Metallurgical Laboratory and ANL	184	989	526	26	28	117	43	114	60	97	86	54	54	53	59	42	2,532
Western Electric Co. including Sandia	1	15		5	1		11	30		41	69	86	61	74	42	51	487
Westinghouse Electric Corp. including Bettis	67	24	44	71	42	4	10	36	97	261	114	139	126	196	266	808	2,305

Representative HOLIFIELD. In the international program, was the tripartite agreement with the United Kingdom and Canada a good arrangement for the United States?

Mr. OLSON. I would like to ask Mr. Anderson to answer.

Representative HOLIFIELD. In other words, how many patents were exchanged? Were any of them of basic value as compared to the Fermi patents?

Mr. ROLAND ANDERSON. We think the agreement was of value in that it gave the United States freedom of action so far as any inventions that were made and were the subject of patent applications as of November 15, 1955.

The agreement put them in the ownership of the AEC where we would accord American industry royalty-free licenses. At the same time, it assured American industry as respects the inventions that were transferred to the British and Canadian Governments that they would not discriminate against American industry in the granting of licenses.

It was recognized that their policy was to extract royalties from their own industry as well as foreign industry. It was recognized that they might extract royalties on inventions made by the United States. The quid pro quo was that we acquired a group of patents that we would not get otherwise that would subject all American industry to paying royalties in the United States.

Of all the applications included in that interchange, we deem that there are some that will prove very valuable in several of the reactor programs that the Commission is now undertaking. The ultimate value can only be determined over a long period of time.

The relative numbers were in the order of about 200 United Kingdom applications in the United States, some 100 Canadian applications in the United States, and I believe the figures shown in our report indicate that there were some 258 or 259 applications in Canada and Great Britain where the rights were exchanged and the British and the Canadian Governments were accorded rights to those inventions.

Representative HOLIFIELD. In those cases where we received these patent rights, does our Government have free access to the patent rights of those two countries without royalty, or do they just have access by payment of royalty?

Mr. ROLAND ANDERSON. We have free royalty in the United States.

Representative HOLIFIELD. I understand that. I am not talking about the United States patents. They are free, I assume, to ourselves, Canada, and England under this arrangement. I am asking if the English and Canadian patents are free to the United States?

Mr. ROLAND ANDERSON. They may not be because the United Kingdom and the Canadian Governments are charging royalties. But the provisions in that agreement provided for nondiscrimination against American industry. If they extract royalty from British industry they can charge royalties to American industry. However, if they do not charge British industry they cannot charge American industry.

Representative HOLIFIELD. In other words, it was an exchange on the basis of the two different methods used in the different countries and provided essentially that there would be access on the basis of each country by the contractors of both countries?

Mr. ROLAND ANDERSON. Yes. It also must be remembered that was something that grew out of a joint research and development program during the war.

Representative HOLIFIELD. Has that continued since the war?

Mr. ROLAND ANDERSON. The joint cooperative venture?

Representative HOLIFIELD. Yes.

Mr. ROLAND ANDERSON. It was not continued, as we pointed out, under the 1946 act, because there was no joint venture between 1946 and 1954. Under the bilateral agreements it is being renewed.

Representative HOLIFIELD. Could I ask you as a matter of curiosity if Fermi filed in the United Kingdom and Canada on his patent rights?

Mr. ROLAND ANDERSON. Yes, sir. He filed, if I recall correctly, in some 26 foreign countries. Some became abandoned due to the war, but there are several that are still in existence in foreign countries.

Representative HOLIFIELD. Mr. Ramey?

Mr. RAMEY. It is understood that the British have some applications on patents on their gas-cooled reactor concept that correspond to our Kaiser-ACF project. Under your bilateral arrangement, will the United States be granted a license on all patents of this nature?

Mr. ROLAND ANDERSON. Those that were on file in the United States as of November 15, 1955, yes. As to any that the British may have filed on gas-cooled reactors or any other reactors since that time, we have no arrangement with the British.

Mr. RAMEY. Are there any plans for any negotiations on this? The United States sold them a submarine and other articles of value.

Mr. ROLAND ANDERSON. In connection with the United Kingdom military bilateral, there is a special arrangement as respects the exchange under that agreement. As to whether or not we would entertain a proposal for a mutually reciprocal exchange on general patents in the atomic energy field and bring it up to date from November 15, 1955, this is a matter which the Commission has under advisement.

Initial steps have been taken in a preliminary way and discussions have been held and they have gone no further than just preliminary discussions.

Representative HOLIFIELD. We have had some complaints from contractors that the AEC has not taken an aggressive position in defending patent rights of the U.S. contractors abroad. I ask you this question:

Would the AEC sue a United Kingdom company in Belgium, for instance, to prevent the infringement of an AEC patent which we had filed on in Belgium?

Mr. ROLAND ANDERSON. At the present time we haven't had any such case arise. I think before the Commission would sue there would have to be some determination as to the merits of the situation.

As to whether or not the Commission would aggressively enforce its foreign rights, I think if it is taken in the context would we charge royalties of the foreigner if he charged us? Would we initiate a suit against a foreign country if an American company wanted us to?

I think we can say on the one hand that the United Kingdom has been very successful in getting royalties from American industry and

foreign industry and I know of no suit by the United Kingdom Government in the United States.

I know of no suit by the Canadian Government in the United States. Both of them have been extracting royalties from American industry on foreign patents. If we were as successful as that in charging royalties, we would not have to sue either, because they may respect your patent and pay rather than be subject to suit.

The United States, as you know, has had the traditional policy of not charging royalties on patents and the Commission has pursued this policy on its domestic program. We have also indicated that we would not charge royalties of American industry on our foreign-owned patents.

As Mr. Olson pointed out a moment ago, the question of whether we should take affirmative action in connection with charging royalties or take some other action in connection with our foreign portfolio is under study.

Representative HOSMER. Is the situation with foreign patents about like this: Do they amount more or less to a license for an infringement suit?

Mr. ROLAND ANDERSON. A foreign-owned patent in the United States?

Representative HOSMER. Take the Belgian situation that the chairman was talking about. Does a patent give you much more than a right to sue in a Belgian court for infringement?

Mr. ROLAND ANDERSON. If I correctly understand your question, you question the value of a Belgian patent in Belgium to American industry.

Representative HOSMER. I mean foreign patents in general. Do they offer the patent holder any more rights or privileges or legal help than an American patent does?

Mr. ROLAND ANDERSON. They do in that particular country because you have to remember that each country is a sovereign unto itself. The patent is only good in the country for which it is applied for. So if you get a Belgian patent and you want to do business in Belgium it is very good to have a Belgian patent.

I think most industry would agree that this was the situation. There are some who feel that probably a foreign patent is not as strong as an American patent because many foreign patents are not prosecuted the same as our U.S. patents. In other words, there is no examination of the application prior to the issuance of a patent. For example, in Belgium you file an application in Belgium and your patent goes to issue in 3 or 4 or 5 months without any examination.

In France they are adopting a system whereby you certify the examination of the art and your belief that you are entitled to a patent. Consequently, the real test of a patent in a foreign situation comes in connection with a suit being brought for infringement.

Representative HOSMER. As a frame of reference for evaluation, we can kind of think of foreign patents in general as about the same as United States patents when granted?

Mr. ROLAND ANDERSON. In certain foreign countries this is true.

Representative HOLIFIELD. Mr. Toll.

Mr. TOLL. Mr. Anderson or Mr. Olson, as I understand the industry position on this foreign situation, it is that although the AEC may

file abroad and obtain patents, AEC will not use them aggressively, whereas if industry or contractors were allowed to file aboard they would be able to use these to negotiate contracts with foreign concerns or to enter into licensing agreements, and therefore, the United States industry would be in a stronger position in the international market than under present policy.

Can you comment on that?

Mr. ROLAND ANDERSON. I don't believe there is much foundation for a statement that American industry would be in a better position by virtue of one single contractor having all the rights in a foreign country. It may be that the individual position of that one contractor would be stronger because he would exclude others from coming into the market. However, under our system, if the United States owns it, and we license, then we are protecting not only the individual industrialist who would like to go into that country but we are protecting all American industry as well as the United States Government.

Mr. TOLL. This would be true of all AEC contractors generally if there were to be such a change in policy. They would then have this greater bargaining power, that is, the contractors would, abroad.

Mr. ROLAND ANDERSON. A contractor would have a stronger bargaining position by virtue of the ownership of the foreign patents. I think that is true.

Mr. TOLL. Do you believe this would not be in the public interest even if noncontractors might be correspondingly weakened?

Mr. ROLAND ANDERSON. The present position is that American industry is building its foreign picture on its own private work. I think many of the Commission contractors are filing foreign applications on their private developments and establishing their own position. I know of no instance that has come to my attention where an American contractor has been unable to negotiate a foreign commitment by virtue of not having owned foreign patents that have been developed by the U.S. Government.

Representative BATES. Mr. Anderson, I have heard it said that the AEC does not aggressively pursue the filing of these foreign applications. Oftentimes industry must spur them on to get these filed abroad. Could you tell us a little something about that, and how much delay is experienced in these particular cases?

Mr. ROLAND ANDERSON. I don't feel that we have been spurred on by individual contractors to file. I think we have initiated a lot of the foreign filings on our own behalf. I think the feeling that industry has is one that says, if we privately own the rights abroad, then we can exclude everyone else from making this device abroad. Some industry will say, we want to build an exclusive position and we would like to negotiate an exclusive position with our foreign affiliate.

The position of the Commission has been, since these were developed by public funds, it was preferable from a Commission standpoint that the Commission file abroad, the Commission own the patents abroad, the Commission can license Mr. Contractor or anyone else.

When they say we have not been aggressive enough, I think some criticism is lodged at the fact that we do not charge royalties. Therefore, since we don't charge royalties, is there any way to enforce the patent abroad? Whether the Commission would undertake to enforce a patent and charge royalties is one of the things that we hope

to get some guidance from as a result of these hearings and the testimony that will be deduced at these hearings.

Representative BATES. Can you give us any estimate of the amount of time that transpires upon the completion of the invention—I am using the language that we used in the bill—and when these things are actually filed abroad?

Mr. ROLAND ANDERSON. Generally speaking, as soon as the invention is reported in the United States, and we file in the United States, we have a year under the International Convention to file applications in those countries that subscribe to the International Convention. Consequently, we undertake all of our filings at the present time within a year of the filing of the U.S. application. Thereby we get the benefit of the International Convention filing.

Representative BATES. When it is filed here in the United States, that date counts in the international consideration of who is entitled to the patent?

Mr. ROLAND ANDERSON. That is correct.

Representative BATES. You don't have any of these backlog over the year period?

Mr. ROLAND ANDERSON. We do not.

Representative BATES. You don't have any backlog?

Mr. ROLAND ANDERSON. As I understand your question, do we have any filings that could not be undertaken within the year of the International Convention?

Representative BATES. Yes.

Mr. ROLAND ANDERSON. The answer is no. We make our filings at the present time under the International Convention, namely, within the 1-year period.

Representative HOLIFIELD. Let us proceed to this next one. We may not conclude the discussion of it. We will discuss it a little bit, and then I think I will ask you gentlemen to step aside and let Mr. Watson come on the stand, because he can't be here tomorrow. He was supposed to come on at 3:30. We are encroaching a little on his time. We will start on this next one.

Mr. OLSON. Now, Mr. Chairman, a review of the 1954 act, the patent sections of the 1954 Atomic Energy Act contain four significant concepts that are at variance with the general patent system. They are:

(1) No patent shall be granted on any invention or discovery to the extent it is useful in the utilization in an atomic weapon—section 151 (a) and (b).

(2) Inventions conceived under Commission contracts and other relationships are vested in the Commission, subject to Commission waiver—section 152.

(3) Compulsory licensing under certain limited circumstances as respects privately owned patents—section 153.

(4) Prior secret knowledge or use may be a bar to patenting of inventions and discoveries in the atomic energy field—section 155.

The Commission, in reviewing its policy and the present sections of the act recognized that a considerable number of equipment manufacturers as well as the patent bar have recommended repeal of the entire patent section—chapter 13—of the 1954 Atomic Energy Act.

While this may be a desirable ultimate goal, the Commission is not ready to make such a recommendation at this time.

The basis for each amendment to specific sections will now be discussed:

Section 151

The nonpatenting of atomic energy weapons as legislated by subsection 151 a. and b. has been criticized primarily on the ground that there is no logical reason for according different treatment to atomic energy weapons than to nonatomic energy weapons. Regardless of the logic of such criticism it appears unlikely that the inventor is prejudiced by the denial of the patent rights with regard to atomic weapons. There is only one customer for atomic weapons—the U.S. Government.

Although section 151 denies patent rights to the inventor, under section 157 he may secure an award for his weapons contribution. If patents were granted for inventions in atomic weapons, the inventor could only sue for Government use in the Court of Claims.

Thus, in effect, the inventor, instead of suing in the first instance in the Court of Claims, is now authorized to proceed before the Commission's Patent Compensation Board.

A return to the normal patent system might mean that a weapons inventor would have to go to considerable expense without being able to secure any benefits or awards, since in the first instances a weapon invention would undoubtedly be secret so that no patent would issue. Even if the secrecy order was rescinded and the patent issued and the weapons inventor sued in the Court of Claims, the Court of Claims would dismiss the action upon the Government plea that secrecy was involved in the defense of the action, as the Court of Claims in the past has refused to consider cases where national security is pleaded as a defense.

Therefore, it would appear that the provisions of section 151, when considered with the remedies afforded in section 157 are more equitable to a weapons inventor than the so-called normal patent system.

In the Commission's proposed bill, several clarifying amendments are suggested in subsection 151 c.; first, the elimination of clauses (2) and (3) of subsection 151 c. since these provisions overlap the subject matter included in subsection 1.

At the April 1958 patent seminar several industrial representatives pointed out that 90 days was too limited a period for compliance. It is therefore suggested that the time be extended from 90 days to 180 days.

Section 151 as presently written does not impose any restriction as to the use the Commission may make of the reports submitted under section 151. Even though the Commission has considered and continues to consider these reports as "business confidential," proposed paragraph "e" would give statutory approval to the existing practice. It might be noted that the form proposed for subsection "e" follows closely the language of title 35 United States Code, section 122, which governs the treatment of patent applications by the U.S. Patent Office.

Representative HOLIFIELD. I think we will stop right there. We have some questions there from Senator Anderson. I might ask this question while we are waiting.

Do you consider that the section 152 is at variance with the general patent system?

Mr. OLSON. Section 152?

Representative HOLIFIELD. Yes.

Mr. OLSON. I think you mean section 151 with respect to weapons.

Representative HOLIFIELD. Yes, I mean 151.

Mr. OLSON. It is at variance in that it does not permit a patent. I must say I don't see under the circumstances where the inventor is prejudiced where he has the award alternative and when we are talking about atomic weapons I would think that the Government would be the only customer as we have pointed out in our statement.

I see very little need for licensing in that area. As a matter of fact, as I tried to point out in the statement, I think that the inventor is given an advantage by this system.

Representative HOLIFIELD. Senator Anderson is here now.

Chairman ANDERSON. I did want to ask you about this bottom paragraph on page 13.

Even though the Commission has considered and continues to consider these reports as "business confidential," proposed paragraph "e" would give statutory approval to the existing practice.

Does that mean confidential as against the Joint Committee?

Mr. ROLAND ANDERSON. No, sir.

Chairman ANDERSON. You know we have had some experience on this. We had a little material that was submitted in advance, if you have with you the Joint Committee print, "Selected Material on Atomic Energy Patents," you will see on page 126 where the Patent Office wrote to Mr. Diamond, the Associate General Counsel of the AEC, talking about the fact that a request by the Joint Congressional Committee for access of copies of patent applications and statements transmitted to the Atomic Energy Commission—

in our present view if such a request were made to the Patent Office the recommendation would be that it be denied.

Then Mr. Durham sent a letter to Mr. Watson pointing out that there were certain requirements in the Atomic Energy law that we be kept informed.

Then, as you will see on page 128, letters came back still saying that the Joint Committee should not have any access to these things.

Mr. OLSON. Senator Anderson, we were genuinely concerned about what we were entitled to do there, but you will note in the language we are proposing in the amendment we expressly take care of that point.

Chairman ANDERSON. How do you take care of it? That is my question. So that the committee can have access to these things?

Mr. OLSON. By providing that no information concerning the same given without authority of the inventor or owner unless necessary to carry out the provisions of any act of Congress. I thought 202 would be embraced by that, sir.

Chairman ANDERSON. We are trying to get a legislative history. Is it to be regarded that it is embraced?

Mr. OLSON. That is our intention, sir.

Mr. TOLL. This is the same language as in the Patent Office Act and they interpret it the other way.

Mr. OLSON. Mr. Toll, we feel that being in our act it will have a little different interpretation.

Chairman ANDERSON. You point out that the form proposed for subsection "e" follows closely the language of title 35 United States Code, section 122, which governs the treatment of patent applications by the U.S. Patent Office.

It is that very application that made them come right back and say that they would not give us the information.

Mr. OLSON. Our intention was that in putting it in our act, sir, along with section 202 which is in this same act, it would permit us to transmit such information to this committee.

Chairman ANDERSON. Supposing the Patent Office says, "we don't interpret it that way." Then we have to wait and come back 2 more years and try again.

Mr. OLSON. We have established the precedent by already transmitting such information. We are stating of record that it is our intent that this should permit us to continue to do that. If stronger language is required we would be glad to collaborate in preparing it.

Chairman ANDERSON. I think there is such a thing as legislative history. I would believe that this discussion would be helpful in establishing the purpose of permitting us to have access to these plans. Do you not think so, Mr. Toll?

Mr. TOLL. Yes.

Chairman ANDERSON. You are satisfied, Mr. Olson, that this is strong enough?

Mr. OLSON. Yes, sir.

Chairman ANDERSON. I would like to elaborate a little bit on that.

In section 202 there is an admonition that the Commission shall keep the Joint Committee fully and currently informed with respect to all the Commission's activities. The Department of Defense shall keep the Joint Committee fully and currently informed with respect to all matters within the Department of Defense relating to development, utilization, and application of atomic energy. There is a specific obligation placed upon the Commission and the Department of Defense in the field of keeping us currently informed.

Now I read the following sentence:

Any Government agency—

and I would assume that this would apply to the Patent Office as well as the Department of Commerce—

shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy.

I ask you if this is the language that you are relying on to give you the permission to modify the provisions of this section "e" which you suggest, which says that the reports that are filed pursuant to subsection c of this section and applications to which access is provided under subsection d of this section shall be kept in confidence by the Commission.

Your thought on that in the following language in that paragraph is that there is a compelling obligation on the part of the basic Atomic Energy Act which overrides the keeping of confidence by the Commission with the Patent Office and which makes it obligatory that material given to you by the Patent Office is automatically made trans-

ferable to this committee not only under the basic act which requires you to keep us fully informed on these subjects, but also on the language which I just read to you which refers to any Government agency.

Mr. OLSON. Sir, it is my opinion that this proposed amendment will take care of the situation. It was certainly our intention. By bringing the language that had troubled us before into our own act we feel that supervenes the problem that we had prior to this language being inserted.

Chairman ANDERSON. You do not interpret the phrase "shall be kept in confidence by the Commission" as overriding your duty under the act to keep the Joint Committee currently informed?

Mr. OLSON. I am afraid I don't understand your question, sir.

Chairman ANDERSON. Do you or do you not believe that the basic Atomic Energy Act provisions that I have read, section 202, obligate you to give to this Joint Committee information on atomic energy matters which you have obtained in confidence from the Patent Office?

Mr. OLSON. We feel that it does. We had some trouble about the problem of our being the intermediary initially. It was our intent that this would take care of that problem.

Chairman ANDERSON. The reason I am specifically bringing this out is that we intend to question Mr. Watson on this also because if it is necessary for us to write something in regard to the Patent Office by statute we will write it in.

Mr. RAMEY. One reason further we were interested in going into this was that there is a Commission regulation, as you know, on access to information relating to license applications other than the patent field where business confidential information would not be made available by the Commission to any congressional committee. The question then arose—this was a couple of year ago—whether or not that excluded the Joint Committee.

The then General Counsel finally held that it did exclude the Joint Committee. The Joint Committee never agreed to that.

Mr. OLSON. I am afraid I am not prepared to give an authoritative comment on that. I am troubled about our getting business confidential information from licensees. It is a dissemination of that information, and I think if we are to disseminate it even to this Joint Committee that we probably should make it clear to the people who submit it, that it is going to be extended to the Joint Committee.

But I have not given any thought to that problem since you and I last talked about it. That is the point that bothers me. If it is going to be passed on, even to the Joint Committee, I think our regulations should make that clear in some fashion.

Mr. RAMEY. We feel also that it should be made clear in the regulation.

Chairman ANDERSON. We felt that we would not take advantage of confidential information, or make public that information. In other words, we should carry forward such a confidence as might be held by the Commission, insofar as violating any of the general ethical business practices concerned.

Mr. OLSON. My only point is that whoever submitted that information should be made aware that it would be extended. In that sense, I think some steps should be taken to let industry know exactly what was meant by business confidential.

Chairman ANDERSON. We have maintained the confidence. The staff calls to my attention that we do have confidential trade information which do keep in confidence from different contractors as well as from the Atomic Energy Commission. It also includes information from the Patent Office which we have respected.

Senator GORE. Mr. Chairman, I welcome the recommendation of the Commission that the period of compulsory licensing be extended for 5 years. I wish to call to your attention that except for a fight which I helped wage in the Senate in 1954, the Patent Office would have been open to private patents immediately. The Commission has changed its position, and I welcome the change.

Perhaps you will recall that in 1954 the Commission recommended among other things—and so did the Joint Committee—that patents on atomic energy matters be obtainable almost immediately. One of the amendments adopted in the Senate after a 13-day-and-night fight was to fix a 5-year period for compulsory licensing. The Commission has now recommended an additional 5-year period, and no 13-day-and-night fight will be required to grant their request.

Representative HOLIFIELD. I congratulate the Senator on offering the amendment. I might say, as I recall, I had less success in the House when I offered the extension amendment there. I am mighty glad that we had success in the Senate. It was later accepted in the House.

Gentlemen, we will come back to this section tomorrow. We thank you very much for your valuable testimony. We will excuse you at this time and we will ask Mr. Watson, Commissioner of the Patent Office, to please come forward.

Mr. Watson, we are glad to have you before us today, sir.

Will you introduce your associates to the committee and the reporter.

STATEMENT OF ROBERT WATSON, U.S. COMMISSIONER OF PATENTS; ACCOMPANIED BY ARTHUR W. CROCKER, FIRST ASSISTANT COMMISSIONER OF PATENTS; SAM BOYD, CHIEF OF DIVISION 10 OF U.S. PATENT OFFICE, AND PATENT OFFICE SECURITY OFFICER; ROGER L. CAMPBELL, ACTING CHIEF OF DIVISION 46, U.S. PATENT OFFICE; AND KENNETH McCLURE, LEGAL STAFF OF THE DEPARTMENT OF COMMERCE

Mr. WATSON. My associates, Mr. Chairman, are Mr. Arthur W. Crocker, First Assistant Commissioner of Patents; Mr. Sam Boyd, Chief of Division 10 of the U.S. Patent Office, and the Patent Office Security Officer; Mr. Roger L. Campbell, Acting Chief of Division 46, another Security Division of the Patent Office; and Mr. Kenneth McClure, of the staff of the Department of Commerce. He is of the legal staff.

Representative HOLIFIELD. You may proceed.

Mr. WATSON. I believe, Mr. Chairman, that copies of a statement which has been prepared in the Patent Office have been distributed, and I have one here which I offer for the record.

Representative HOLIFIELD. Very well, sir.

Mr. WATSON. With your permission I will read it.

Representative HOLIFIELD. You may proceed, please.

Mr. WATSON. This statement is limited to the bill proposed by the Atomic Energy Commission.

Prior to the submission of the draft bill to the Joint Committee, it was referred by the Bureau of the Budget to the Department of Commerce for its comments. The Secretary of Commerce replied that the Department interposed no objection to the proposed legislation.

The draft bill proposes changes in various sections of the chapter of the Atomic Energy Act of 1954 which deals with patents, and this statement will briefly comment on those portions of the chapter which affect the Patent Office.

Section 151a of the Atomic Energy Act excludes certain subject matter from patenting, namely:

any invention or discovery which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon.

If an application for patent in the excluded field is filed, the Patent Office must necessarily refuse a patent. Questions of interpretation occasionally arise in view of the presence in the section of the word "solely," but the Patent Office generally takes the position that a weapon utilizing special nuclear material or atomic energy is barred by the act regardless of whether or not some nonmilitary utilization may be urged for the "weapon." No change in this paragraph is proposed by the draft bill.

Section 151d requires the Commissioner of Patents to notify the Atomic Energy Commission of all applications for patents disclosing inventions set forth in section 151c. The Patent Office complies with the requirement by periodically forwarding to the Commission lists of applications in the designated field which have been filed or discovered since the preceding report, and these applications are made available to the Commission as required by the act. A broad interpretation of the type of application reported is used since the purposes of reporting are not necessarily the same as the purpose of requiring statements under section 152. No change is proposed in this paragraph.

The draft bill simplifies the definition of the designated field, in paragraph c, by eliminating overlapping groups, and is not taken as either enlarging or restricting it. The remaining changes in section 151 do not affect the Patent Office.

The draft bill proposes a number of changes in section 152 which deals with inventions conceived during Commission contracts, et cetera. The first sentence of this section, defining the rights of the Commission, does not, of course, concern the Patent Office, but the remainder of the section relates to matters which are in part administered by the Patent Office. The procedural steps called for may be analyzed as follows:

1. The applicant for a patent for an invention in the atomic energy field must file a certain statement under oath, either with the application or within 30 days after request therefor by the Commissioner of Patents. The statement under oath must give certain facts and must also specify whether the invention was made or conceived in the coures of, in connection with, or under the terms of any contract, et cetera, with the Commission.

2. If the statement under oath referred to under 1 is not filed, within the time specified, no patent shall issue. It should be noted that if the Commissioner of Patents calls for the affidavit and it is not filed within the 30 days, a patent is barred.

3. After the statement is filed, the Commissioner of Patents forwards copies of the application and the statement to the Commission.

4. The Commission has 90 days after receipt of the copies mentioned under 3 within which to direct the Commissioner of Patents to issue the patent—if the invention is otherwise patentable—to the Commission.

5. If the Commission fails to file the direction within the 90 days, the Commissioner of Patents may proceed with the application and issue the patent to the applicant—if the invention is otherwise patentable.

6. If the Commission files the direction referred to, the applicant is to be notified. If the applicant's statement claims, and the applicant still believes that the invention was not made or conceived in the course of any contract, et cetera, entitling the Commission to take title to the application or patent, he may, within 30 days after notification of the filing of the direction, request a hearing.

7. The hearing is before the Board of Patent Interferences in the Patent Office, which is given the authority to hear and determine whether the Commission was entitled to the direction filed with the Commissioner of Patents. The rules and procedure established for interference cases are to be followed, and either party may appeal to the Court of Customs and Patent Appeals.

With respect to the first step, the language of the second sentence of section 152 permits the applicant—applicant is understood in the sense of the patent law as the applicant for patent—to either file the statement when he files the application, or to wait until he is required to file the statement by the Commissioner of Patents.

In the administration of this part, the requirement for the statements is not made until it has been determined that patentable subject matter is present and the application has approached the stage when the patent will be allowed. This eliminates questions arising with respect to subject matter on which no patent will be issued at all. The statement must be filed within 30 days from the request for it and the statute does not provide for extensions.

In practice, the applicant is first notified that a statement will be required, thus giving him ample time to prepare the same. Then, normally about 45 to 60 days after the warning notice the specific request for the statement may be made, unless the applicant has already filed it or requests more time.

In this manner unexpected situations or inability to obtain a statement in time are taken care of. There have been only several instances of applicants failing to file a statement after the request, or filing a wholly inadequate statement. Since the statute provides that the statement is to be filed after request for the same, there is a small amount of discretion and statements are not requested in those cases which are already owned by the Commission.

The draft bill inserts a clause providing for not calling for the statement when the Commission advises the Commissioner of Patents that its rights have been determined and no statement is necessary.

With respect to item 3 of the above steps, after the statement has been filed, the Commissioner of Patents forwards copies of the application and the statement to the Atomic Energy Commission. The draft bill revises the language to indicate that this is done when the application is otherwise in condition for allowance, which is the practice now followed.

After this third step, the Commission has 90 days within which to direct the Commissioner of Patents to issue the patent to the Commission. There have been, as indicated on page 108 of the Joint Committee print, five directives filed by the Commission.

Within 30 days after being notified of the directive by the Commission, the applicant may request a hearing. This hearing is before the Board of Patent Interferences in the Patent Office. There have been a total of four requests for hearings.

The draft bill proposes to change the forum of first instance from the Board of Patent Interferences to the United States District Court for the District of Columbia.

While the Patent Office raises no objection to this change, it may be pointed out that the administrative hearing has some advantages. As has been noted, four hearings have been requested; three of these cases were settled before testimony and decision, and the fourth has just been instituted.

The procedure in these cases is relatively simple. The proceeding is opened or instituted by a notice forwarded by the Patent Office to the applicant and the Commission. The applicant is regarded as the petitioner, with the burden of going forward with the evidence, and the Atomic Energy Commission as the respondent.

The notice calls attention to the rules relating to the taking of testimony and filing records and briefs, and sets times for taking testimony and final hearing.

Sixty days is allowed the parties to give consideration to the presentation of their cases, and then the times for taking testimony begin. The schedule of times fixed would bring the case to a close in about 7 or 8 months, if the parties did not ask for extensions. The parties may bring motions during the initial 60-day period, but there is no room for the same type of motions that sometimes complicate patent interference proceedings. The members of the Board of Patent Interferences are lawyers as well as as being technically trained and have had experience in considering evidence and determining disputes between rival inventors.

Section 153 of the act deals with compulsory licenses and the draft bill proposes to change the expiration date in paragraph h from 1959 to 1964. The Patent Office performs no functions under this section. As has been stated, the Department of Commerce has indicated that it interposes no objection to the extension.

The draft bill also proposes to amend section 155 by clarifying language. In the view of the Patent Office the amendment merely recites the meaning which the section already is considered to have.

In conclusion, it is stated that the Patent Office interposes no objection to the draft bill.

In this summary it may be said that the principal effect which the enactment of that proposed bill into law would have on the Patent Office would be to remove from the Patent Office to the district court of the United States the decision which the Patent Office now makes

in the event of a controversy between the applicant for patent and the Atomic Energy Commission.

Representative HOLIFIELD. Senator Anderson.

Chairman ANDERSON. I want to get back to the question I raised a moment ago, Mr. Watson. I guess you heard the question I directed a minute ago. If the Joint Committee requests access to patent applications in your office in order to obtain information to consider legislation relating to atomic energy patents, if this bill is passed, can you deny access to the Joint Committee?

Mr. WATSON. That is our custom and we believe it to be a correct one.

Chairman ANDERSON. You believe it to be what?

Mr. WATSON. We believe it to be correct in that we have authority to divulge the contents of patent applications to the Atomic Energy Commission, but to no one else.

Chairman ANDERSON. To the Atomic Energy Commission and no one else. Section 202 in chapter 17 of the Atomic Energy Act reads:

> Any Government agency shall furnish any information requested by the Joint Committee with respect to activities or responsibilities of that agency in the field of Atomic Energy.

That became law in 1954, and that law was passed after the statute on which you rely.

Would you think that that action in any way was a repealer of the statute on which you rely?

Mr. WATSON. We do.

Chairman ANDERSON. How could we get it so you would understand what the Congress meant? Would we have to put in there that you shall be required to furnish this access? It says any Government agency. The Patent Office is a Government agency, is it not?

Mr. WATSON. It certainly is.

Chairman ANDERSON. You recognize the Joint Committee requested the information, don't you?

Mr. WATSON. Yes.

Chairman ANDERSON. We made a request with reference to the activities and responsibilities of your agency in the field of atomic energy, did we not?

Mr. WATSON. Yes.

Chairman ANDERSON. And you declined it on a law passed ahead of the time that the law I referred to was passed. Now why?

Mr. WATSON. Do you understand that all applications submitted to the United States Patent Office are preserved in confidence and maintained in secrecy, except in our view the right of the Patent Office to disclose to the Defense agencies and the Atomic Energy Commission.

Chairman ANDERSON. Does it say that?

> Applications for patents—

I am reading from the law you depend on—

> shall be kept in confidence by the Patent Office and no information concerning the same given without authority of the applicant or owner unless necessary to carry out the provisions of any act of Congress.

Where do you get just the Defense Establishment? The 1954 act was enacted by Congress, wasn't it?

Mr. WATSON. Yes.

Chairman ANDERSON. Isn't that covered under this section pretty clearly then?

Mr. WATSON. There is a distinction between our activity and the property rights of others disclosed in patent applications.

Chairman ANDERSON. Would you tell me how that relates to the language I just read you?

Mr. WATSON. Sir?

Chairman ANDERSON. Would you tell me how that relates to the language I just read you? If the language says that you have to keep it confidential unless necessary to carry out the provisions of any act of Congress, and an act of Congress came along after this was passed and required you to give the Joint Committee information, what does this recent statement of yours mean in connection with it? Does it mean anything?

Mr. CROCKER. Could I speak to that question, sir?

Chairman ANDERSON. Anybody who wants to.

Mr. CROCKER. We have supplied the Joint Committee with information in regard to the activity, but not with regard to specific information concerning particular applications. I think that is where we attempt to draw the line.

Chairman ANDERSON. How would we know whether to extend the patent law 5 years, or 1 year, or not extend it at all, unless we found out the sort of things that the Atomic Energy Commission has been handling through your office? They send us up a bill and say, give us 5 more years. Are we supposed to hold our nose and pass it without going to see what has been going on, in your estimation?

Mr. CROCKER. We did supply to this committee directly charts and other statistical information indicating the activity of the office. That is what your later act requires us to do.

Representative HOLIFIELD. That is what the act required?

Mr. CROCKER. The Atomic Energy Act says that any Government agency shall furnish any information requested by the Joint Committee with respect to the activities.

Chairman ANDERSON. Didn't we asked with reference to the activities and didn't you decline to give it to us?

Mr. CROCKER. You got it.

Chairman ANDERSON. We did ask, did we not?

Mr. CROCKER. You got it through the Atomic Energy Commission.

Chairman ANDERSON. Yes, but we did not get it because of any compliance with the law on your part. Mr. Durham sent you a nice courteous letter and asked for this information and quoted the law to you and said the cooperation of the Patent Office is appreciated. The Patent Office bluntly told him where he could go, did they not?

Mr. CROCKER. We said we would be happy to comply with our statutory authority.

Chairman ANDERSON. You said you would be happy not to give it to him.

Mr. CROCKER. To submit this information to the Atomic Energy Commission.

Mr. ANDERSON. The law doesn't say anything about the Atomic Energy Commission in this, does it?

Mr. CROCKER. No.

Chairman ANDERSON. Why get on the Atomic Energy Commission? We are dealing with what the law says about the Joint Committee.

Mr. CROCKER. You construe the activities to mean the processing of applications before the office.

Chairman ANDERSON. Is that not part of your activities?

Mr. CROCKER. It is. That is the distinction that we made.

Chairman ANDERSON. What is that?

Mr. RAMEY. I think the Atomic Energy Commission, in its construction of this language, certainly construes activities to include matters such as patent applications or other things of this variety, since they did make information of this general type available to the committee.

Mr. WATSON. We would never construe a patent application as an activity. We would say that the processing of that application is activity.

Chairman ANDERSON. Don't you get any money for processing applications from the Congress?

Mr. WATSON. Yes.

Chairman ANDERSON. That is not an activity?

Mr. WATSON. Processing an application is an activity.

Chairman ANDERSON. That is what we asked you about.

Mr. WATSON. But the application itself is not an activity. The application is the inventor's concept disclosed in writing and in drawings and in claims. It is not an activity. It is his submission. The activity follows the filing of the application and the activity is the act of the Patent Office in processing that case. We do not mind giving you information as to the number of applications which we have, and categories. We do not mind giving you all the information which relates to our own activities. But we had certainly never construed the content of an application to be an activity.

Chairman ANDERSON. Isn't it amazing that the Atomic Energy Commission, which has all sorts of requirements for secrecy put upon it communicates to this committee material about weapons, the design of weapons, stockpiles, everything of that nature, and doesn't worry too much about it? But the Patent Office feels that the Republic will fall if it happens to let us know something about it.

The CIA comes in and tells us everything that happens in Russia or all over the world.

The Patent Office says, "Take a chance on it if you want to, but we are not going to tell them anything." I don't understand your attitude. What are you worried about? That we are going to rush right out and manufacture this ourselves?

Mr. WATSON. No. I would say this: The fact that we decline to transmit this information to you is certainly no reflection upon your patriotism or your right to know the secrets of the country.

Chairman ANDERSON. Not our patriotism but it is upon our judgment or something. You just say these are matches you can't play with. You can go out and get a bomb, but don't get hold of one of these pieces of papers that is an application for a patent that leads up to the development of that bomb. It is not just activities. It is activities and responsibilities.

I am just trying to find out from you what we have to write in the law so that this committee can discharge its responsibilities by trying

to protect these people who are seeking patents. Are we going to have to put the words "information, contents of applications," and how many more things? We have to put that in?

Mr. WATSON. That would make it very clear to us.

Chairman ANDERSON. You need that much in order to do it?

Mr. CROCKER. We have express statutory authority to make that disclosure to AEC. We do not have express statutory authority to divulge to others.

Chairman ANDERSON. You think it is better to do it the roundabout way than directly?

Mr. CROCKER. It seemed to be the solution at the time.

Representative HOLIFIELD. Could I ask you at this time if you discussed this with the Secretary of the Department of Commerce and were given this advice by the Secretary of Commerce, or was this arrived at in your own agency?

Mr. WATSON. Mr. Chairman, it was a decision of the Patent Office and not the decision of the Secretary of Commerce, as I understand it.

Representative HOLIFIELD. Was the Secretary of Commerce one who advised you on the matter.

Mr. WATSON. I was out of the country at the time.

Mr. CROCKER. He was not.

Representative HOLIFIELD. It has not been discussed?

Mr. WATSON. It has not been discussed at the Department level.

Representative HOSMER. I just want to say with complete respect and affection for my colleagues that I happen to agree with the Commissioner's interpretation of this language and his explanation of it, and the fact that there would have to be additional authority if it is information to come directly to the committee from the Patent Office. I am also inclined to believe under the circumstances that it is probably best that it come via the AEC rather than direct from the Patent Office because we veer into violation of the general philosophy of patents.

Mr. CROCKER. I would like to point out at this time that we did supply the charts and statistical information directly to this committee. We regard that as the activities of the Patent Office as distinguished from particular disclosures in applications.

Chairman ANDERSON. I hope I get a chance sometime to find a moment to review the legislative history of the act of 1954. We spent, as I pointed out one time, a solid day on a single word. We tried hard to make sure that we had the cooperation of the agencies. It may be that you interpreted it correctly.

I am trying to find out what we have to put in it this time to get the information necessary to permit us to protect people who apply for patents; that is all.

Representative HOLIFIELD. I would like to comment, too, and say that in section 202 of the Atomic Energy Act of 1954 it states:

> The Commission shall keep the Joint Committee fully and currently informed with respect to all of the Commission's activities.

That word "activities" there has quite a legislative history to the members of this committee. It has been thoroughly explored on the floor of the House and the Senate at the time of the passage of the act as to what this meant. It was given a very broad interpretation.

Naturally in using that word, we carry it forward where we say any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy. The activities and the responsibilities of that agency in the field as far as our legislative understanding of the word "activity" is concerned is broad enough to take into consideration—and I believe the legislative history will uphold this—but if it is necessary to write it clearer, I suppose we can do that.

Mr. WATSON. I think, Mr. Chairman, that we can suggest two or three words which would ease the situation so far as we are concerned.

Indeed it may be that we are a little overcautious.

Chairman ANDERSON. You did read the legislative history of section 202 before you interpreted it, did you not?

You had your counsel do that, I am sure, did you not?

Mr. CROCKER. No, we did not.

Chairman ANDERSON. Why not? How do you interpret laws without looking up the legislative history?

Mr. CROCKER. We think that the term "activities" goes to the procedure in the office and what we do with applications in general and not to the disclosure.

Chairman ANDERSON. This is part of a particular law and both Congressman Cole and Senator Hickenlooper—unless my memory is playing me awful tricks—were very fluent with what the word "activities" meant, so that we would be able to get all of the activities of the Atomic Energy Commission, and so forth.

For example, they did not mean that when the Commission was looking at the detailed design of a bomb that all the Commission could tell the Joint Committee was that they had a drawing, but they couldn't show it to them.

Mr. CROCKER. I don't recall there was any mention of access to pending applications.

Chairman ANDERSON. I don't either, but there was a lot of talk about the meaning of the word "activities." That was available to you people as well.

Representative HOLIFIELD. Do you believe that the words "activities or responsibilities of that Agency in the field of atomic energy," that the responsibilities broaden the meaning at all?

Mr. WATSON. I would not think so. I really wouldn't. We in the Patent Office receive these applications and we process them. By negotiation with the inventor a patent is either allowed or it is finally rejected.

That is our activity. But the content of the paper which the inventor submits, his application, is not an activity in itself.

Representative HOLIFIELD. What is your responsibility?

Mr. WATSON. Our responsibility is to comply with the statutes, examine the application with the greatest care and be sure that only a valid patent issues. That is our responsibility. That is action.

Representative HOLIFIELD. Isn't your responsibility also to look this application over and evaluate it, and so forth?

Mr. WATSON. Definitely.

Representative HOLIFIELD. That is part of your responsibilities?

Mr. WATSON. Definitely. The evaluation of a patent application is what keeps us busy.

Representative HOLIFIELD. But you feel you have no responsibility or no obligation under the act to furnish us information regarding those responsibilities?

Mr. WATSON. We will willingly tell you what our responsibilities are and if there is time enough I will tell them to you in the greatest detail. Those are the responsibilities.

Chairman ANDERSON. I am sure that our correspondence with you would lead us to believe that. Would the matter be cleared up if section 151d was amended to read:

The Commissioner of Patents shall notify the Commission of all applications for patents heretofore or hereafter filed which in his opinion disclose inventions or discoveries required to be reported under section 151c, and shall provide—

and insert the words "Joint Committee on Atomic Energy"—

and the Commission access to all such applications.

You say it applies to the Commission now.

Mr. WATSON. The word "access."

Mr. CROCKER. You notice that word "access" there in connection with the Commission. That same term could be well used in connection with the Joint Committee.

Chairman ANDERSON. I am only trying to say that I believe we measured up to our responsibilities. You declined to give it to us. The Commission furnished it to us. We have not broadcast this material. This has been kept in complete confidence.

I don't know what you are worried about. I really don't. This is not a committee that I think has been noted to be blabbermouths. Quite the reverse. It is hard to understand.

Congressman Cole was talking to the then chairman of the Atomic Energy Commission, and he said:

I want to ask you with reference to a subsection of a section of existing law.

He read the one about the committee:

"The Atomic Energy Commission shall keep the Joint Committee fully and currently informed with respect to the Commission's activities."

My interpretation of that sentence and the responsibility imposed on the Commission is all-inclusive with respect to the Commission's activities, with the possible exception of those areas where the Commission's activities may be related or connected in some way with national defense war plans. In all lesser areas it is my view that is a statutory obligation of the Commission, to keep this committee informed of all these activities.

Mr. Strauss said:

That is the view of the witness, and in any respect in which I have failed to do that it would be dereliction.

Now Mr. Strauss is Secretary of Commerce, and this Department is under him; is it not?

You would expect him to take the same broad point of view over there; would you not?

Senator Hickenlooper took a broader view:

Senator HICKENLOOPER. Mr. Chairman—

Cole was chairman—

just to keep the record clear here I want to respectfully, and in a most friendly manner, disagree with one statement that the chairman made indicating that he thought perhaps the Commission's activities in connection with war plans might be excluded from the information which we expect under the law. I dis-

agree with that. I think if, as, and when the Commission has anything to do with war plans or anything else in its official activities, that law is sufficiently broad to give immediate and full access to the Joint Committee and require the Commission to keep the Joint Committee currently and fully informed, providing their activities in connection with war plans which we are talking about right now come up in connection with their official duties.

He did not restrict it at all.

Representative HOLIFIELD. May I read something to supplement what the Senator has said. In the report accompanying the Atomic Energy Act of 1954, Senate bill 3690, Mr. Hickenlooper, presenting that report to the Senate—and I call to your attention it is Report No. 1699, on the legislative day of June 22, 1954, has this to say regarding section 202 that we have read to you:

It is the intent of Congress that the Joint Committee be informed while matters are pending, rather than after action has been taken. All Government agencies are required, and I want to call to your attention the word "all," to furnish any information relating to atomic energy requested by the Joint Committee.

That is some of the legislative history.

Chairman ANDERSON. It is quite obvious to me that we are going to have to try to get at this by rewriting the law. We thought it was evident, Mr. Cole thought it was apparent, Mr. Hickenlooper thought it was perfectly plain; you people don't. We will try it again. We will try to get it in language this time that even the Patent Office will be able to understand.

Representative HOLIFIELD. Mr. Watson, you have suggested that you have some language. Will you give us the language?

Mr. WATSON. The word "access" means a lot to us in the Patent Office. We have this situation: Every day persons who are not entitled to information about the inventions submitted to us by others somehow get wind of them and write to secure information about the contents of those applications.

We safeguard the rights of those who submit the applications to us by requiring that strangers obtain permission from the inventor, or the attorney for the inventor, before we give any information as to the content of the file, or even other information.

The word "access" is a word of art in the Patent Office. The word "activities" is a much broader word. It relates to the whole examining operation. The word "responsibilities" to us means our statutory duties in the performance of the examination of patent applications.

But "access" is a word of art peculiar to us, and we attach the greatest importance to it. If that word were in there we would have no doubt. Without it we are in some doubt.

Chairman ANDERSON. May I read you again from Senator Hickenlooper. This is the legislative history that your office could easily have found or could have asked us for and we would have been glad to supply:

* * * has the right according to the language of the statute, to the facilities, services, information, and personnel of the departments and agencies of the Government, and that means all of them.

The committee is not set up as a standing committee of the Senate or of the House. It is not a standing committee of either House. It is a committee created by the National Legislature of Congress. It is a committee created and established by law with its rights defined by law.

Under a strict interpretation of the law which established the Atomic Energy Commission, while I doubt if we would have any occasion to go this far, yet if we should say to the Attorney General, detail X number of people on

the staff of the FBI and have this matter investigated, I think under the law he would have to do it.

If we determined, for instance, that the Department of Defense should perform certain acts in the interests of the furtherance of the atomic energy program, I think a strict interpretation of the law would require the Department of Defense to take our orders on that score, provided it went to the development of the atomic energy program. The committee has unique power.

Let me go back and tell you what Mr. Hickenlooper said:

* * * has a right to the facilities, services, information, and personnel of your Government agency.

That is part of the legislative history. If you add facilities, services, information, and personnel to activities and responsibilities, does that come pretty close to covering the waterfront? You people looked at that and said you can't do it. You have to go around Robin Hood's barn and get it through the Atomic Energy Commission.

Mr. WATSON. We are still not dead down here, I am happy to say although that last shot was devastating.

Chairman ANDERSON. "A man convinced against his will is of the same opinion still."

Mr. WATSON. If we could put a couple of words in there we would be better satisfied.

Chairman ANDERSON. I would be a little reluctant to take the words that you proposed because you must have considered them carefully and know it permits you to refuse us the information.

Representative HOLIFIELD. Nevertheless, the Chair will ask that we get the words.

Mr. WATSON. "Access."

Representative HOLIFIELD. Where does that come in?

Mr. WATSON. That is in 151d.

The Commission shall be provided with "access" to all such applications.

That means a lot to us.

Chairman ANDERSON. That is what I suggested. That we add the Joint Committee to the provision about the Commission in 151d.

Mr. WATSON. Yes. Then we would be very happy.

Chairman ANDERSON. We want you happy.

(Subsequently the following exchange of correspondence took place:)

MAY 4, 1959.

Hon. LEWIS L. STRAUSS,
Secretary of Commerce,
U.S. Department of Commerce,
Washington, D.C.

DEAR MR. SECRETARY: At a hearing before the subcommittee on legislation on April 21, 1959, Mr. Robert Watson, Commissioner of Patents, testified concerning procedures and practices of the U.S. Patent Office in processing applications for atomic energy patents.

During the course of the hearing, Senator Anderson, chairman of the Joint Committee, and I, and other members of the committee, questioned Mr. Watson concerning the request of the Joint Committee to obtain access to certain documents in the Patent Office, namely, applications for atomic energy patents. Reference was made to the correspondence between the Patent Office and the Joint Committee, reprinted at pages 126–129 of volume I of the Joint Committee print entitled "Selected Materials on Atomic Energy Patents."

Reference was made during the hearings to the following sentence in section 202 of the Atomic Energy Act of 1954, as amended:

"Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy."

During the hearing, Mr. Watson stated that his office had not yet made an exhaustive study of the legislative history of the section 202 of the Atomic Energy Act.

It is requested that such a study be made, and that the Joint Committee be informed, after review of the legislative history, whether access will be granted to atomic energy patent applications on file in the Patent Office.

Inasmuch as the subcommittee is now considering a proposed bill to amend the Atomic Energy Act of 1954, with respect to patents and inventions, a reply is requested as soon as possible, preferably on or before May 15, 1959.

Sincerely yours,

CHET HOLIFIELD,
Chairman, Subcommittee on Legislation.

THE SECRETARY OF COMMERCE,
May 20, 1959.

HON. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation, Joint Committee on Atomic Energy, Congress of the United States.

DEAR MR. CHAIRMAN: In response to your request of May 4, 1959, I have had the Commissioner of Patents, Mr. Robert C. Watson, undertake as exhaustive a study as time permits of the legislative history of the sentence in section 202 of the Atomic Energy Act of 1954, that reads:

"Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy."

On the basis of the attached report prepared by members of the legal staff of the Patent Office, the Commissioner of Patents has, as you suggest in your letter, given full and careful consideration to that history. As indicated in the report, he remains firm in the opinions and views expressed by him at the hearing on April 21, 1959, and in his conclusion that no provision of section 202 of that act authorizes him to afford the Joint Committee direct access to pending applications for patent in the field of atomic energy. Those views and opinions and that conclusion I share. The conclusion is believed to be fully supported by the statements of Senator Hickenlooper, quoted in the report.

It is my understanding that at the hearing on April 21, language was discussed by the Commissioner of Patents which, if included in the Atomic Energy Act, would effectuate the Congressional direction necessary to allow access by the Joint Committee. I assure you I share the views expressed by members of the subcommittee at the hearing that it is incongruous to provide the committee with the breadth of other information on atomic matters to which it is entitled by law and then deny direct access to patent information. Amendment of the basic act for this purpose would seem to be most appropriate and I would favor it.

Sincerely yours,

LEWIS STRAUSS,
Secretary of Commerce.

U.S. DEPARTMENT OF COMMERCE,
U.S. PATENT OFFICE,
Washington, May 18, 1959.

To: Lewis L. Strauss, Secretary of Commerce.
From: Robert C. Watson, Commissioner of Patents.
Subject: Report of Commissioner of Patents, Robert C. Watson, on the legislative history of section 202 of the Atomic Energy Act of 1954.

Chairman Chet Holifield, of the Subcommittee on Legislation of the Joint Committee on Atomic Energy, has requested a study of the legislative history of the sentence in section 202 of the Atomic Energy Act of 1954 that reads:

"Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy."

Section 202 is part of chapter 17, entitled "Joint Committee on Atomic Energy." It defines the "authority and duty" of that committee. The fifth sentence of section 202, copied above was referred to, specifically, at the hearing on April 21, 1959, before the Subcommittee on Legislation.

That sentence had its genesis in a document published by the Joint Committee on Atomic Energy under an "April 1954" date, entitled "A Proposed Act To Amend the Atomic Energy Act of 1946." The third sentence of section 202 of the proposed act reads as follows:

"Each Government agency shall furnish any information requested by the Joint Committee with respect to the development, use, and control of atomic energy by that agency."

No comparable provision was present in section 15(b), a comparable section of the Atomic Energy Act of 1946.

H.R. 8862 and S. 3323, 83d Congress, 2d session, which were companion bills, respectively, were introduced on April 15 and April 19, 1954. Each of these bills included, as the third sentence of section 202, the same sentence of the proposed act.

While the hearings on said bills were in progress, there was published under date of May 21, 1954, a committee print of a bill "incorporating changes proposed to be made in H.R. 8862 and companion bill S. 3323." One change was proposed in the specified sentence of these bills: the initial word "Each" to become "Any."

On June 30, 1954, substitute bills H.R. 9757 and S. 3690, simultaneously were introduced and reported. Each of these bills includes in section 202, the sentence that appears in the same section of the Atomic Energy Act of 1954, to wit:

"Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy."

No explanation appears for the change in the substitute bills from the language "with respect to the development, use, and control of atomic energy by that agency," to "with respect to the activities or responsibilities of that agency in the field of atomic energy."

The reports on H.R. 9757 and S. 3690 seem to be identical. Each contains a section-by-section analysis. Report No. 2181, 83d Congress, to the House of Representatives by Representative Cole and Report No. 1699, 83d Congress, to the Senate by Senator Hickenlooper contain an identical statement respecting section 202, which includes the following:

"The Commission and the Department of Defense are required to keep the Joint Committee fully and currently informed with respect to all atomic energy matters. It is the intent of Congress that the Joint Committee be informed while matters are pending, rather than after action has been taken. All Government agencies are required to furnish any information relating to atomic energy requested by the Joint Committee."

Section 202, per se, does not appear to have been discussed in the congressional debates prior to the enactment of the Atomic Energy Act of 1954. However, those debates do contain the following statements relating to the authority and duty of the Joint Committee. In the Congressional Record of July 16, 1954 (p. 10180, line 4 from bottom of column 1) Senator Hickenlooper stated:

"It is the duty of the Atomic Energy Commission to keep the Joint Committee currently and fully informed upon all actions of the Commission. That is an all-inclusive provision. It does not apply only to contracts, but it includes contracts. It includes all actions of the Commission."

Later (same page, column 2) in answering an inquiry as to whether the Bureau of the Budget had notified the Joint Committee that a particular contract was being considered, Senator Hickenlooper said: "* * * There is no legal obligation on the part of the Bureau of the Budget to notify the Joint Committee about anything. There is a legal obligation on the part of the Atomic Energy Commission to keep the Joint Committee fully and currently informed. Once such a matter gets into the hands of the Atomic Energy Commission, the Commission is obligated to notify the Joint Committee on Atomic Energy."

In the Congressional Record of July 23, 1954 (p. 11057, line 22 of column 3), Representative Cole, in answering a comment regarding the section on definitions said "* * * under definitions the statement is made 'The intent of Congress in the definitions as given in this section should be construed from the words or phrases used in the definitions rather than from the choice of words or phrases defined.' So we must interpret that as being a direction to the person who interprets the language to look at the words used in the definition."

Section 11 of the act headed "Definitions" includes the following:

"j. The term 'Government agency' means any executive department, commission, independent establishment, corporation, wholly or partly owned by

the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration or other establishment in the executive branch of the Government."

During the consideration on July 22 to 26, 1954, of H.R. 9757 by the House of Representatives, the Clerk read section 202 under the 5-minute rule (p. 11372, Congressional Record, July 24, 1954); there was no amendment offered, or any floor discussion. By the time the Senate concluded debate and passed the bill, S. 3690, on July 27, 1954, the House had completed action on the companion bill, H.R. 9757, and it had been transmitted to the Senate. The Senate then struck out everything after the enacting clause of H.R. 9757 and substituted the language of S. 3690, as passed by the Senate, sending the bill H.R. 9757, to conference. The conference committee on August 16, 1954, submitted its report, House Report 2666, 83d Congress, 2d session. A complete text of H.R. 9757 was proposed in the report. Section 202, as therein incorporated, is identical with the same section in H.R. 9757 and S. 3690, as introduced and reported. The House agreed to the conference report on August 16 and the Senate on August 17.

I have given full and careful consideration to the foregoing legislative history of the Atomic Energy Act of 1954. I remain firm in the opinions and views expressed at the hearing on April 21, and in the conclusion that no provision of section 202 of that act authorizes me to afford the Joint Committee direct access to pending applications for patents in the field of atomic energy. The conclusion is believed confirmed by the statements of Senator Hickenlooper, quoted above, relative to the study of the Bureau of the Budget.

The language in the reports of June 30, 1954, that "All Government agencies are required to furnish any information relating to atomic energy requested by the Joint Committee," standing alone, might appear broad enough to be a basis for an argument to the contrary. That language, however, must be interpreted in the light of Senator Hickenlooper's suggestion that the Bureau of the Budget (necessarily encompassed in the definition of a "Government agency" discussed above) is under no legal obligation to give the Joint Committee information about its actions in the field of atomic energy, but that the Atomic Energy Commission is under the obligation to keep the Joint Committee fully and currently informed. I am of the opinion that the Patent Office stands in the same relation to the Joint Committee as the Bureau of the Budget.

The Joint Committee now has indirect access to pending applications for patents through the Atomic Energy Commission. Absent a definite provision in the Atomic Energy Act of 1954 for direct access by the Joint Committee, the general mandate of 35 U.S.C. 122 that "Applications for patents shall be kept in confidence by the Patent Office and no information concerning the same given without authority of the applicant or owner" appears paramount.

ROBERT C. WATSON,
Commissioner of Patents.

Representative HOLIFIELD. This has been a very broad interchange in regard to the legal interpretation of certain phrases in the act. I want to ask you some questions in regard to procedure down there, and I hope they are questions which you can feel you can answer.

How long does it take to process an application to issue a patent ordinarily?

Mr. WATSON. On the average the application pends for about 3 years and 4 months as of this time. We are endeavoring to make it possible for an inventor who is diligent to secure his patent within about 1 year's time. The average pendency is coming down due to the increased appropriations which the Congress has given us, and the time needed by the Patent Office to respond either to the filing of an application or to act upon an argument presented by the inventor is steadily falling. So that the time of pendency is gradually coming down.

Representative HOLIFIELD. You mentioned the fact that a diligent application shall be granted within 1 year. Is it true that your applicants frequently adopt delaying tactics by utilizing periods granted

in the law to drag that out and part of this delay is not within your control?

Mr. WATSON. That is exactly correct.

Representative HOLIFIELD. If a man who makes an application desires to deliberately delay the consummation of his application, do you say that his ability to do so under present law delays industrial development to that extent that he withholds?

Mr. WATSON. I think that the average time consumed by the applicant or his attorney is now about 15 months, and that also is being shortened by remedial actions which we are taking in the Patent Office to speed up the general progress of the case through the office. By statute each applicant has now 6 months during which he may reply to a letter of rejection from the Patent Office. We cannot shorten that. We can reduce to the minimum the number of actions which we are willing to give him before sending him what we call a final rejection which necessitates either his dropping the application on taking an appeal to the Board of Appeals.

Representative HOLIFIELD. Do you have a current backlog of applications which because of lack of personnel you are unable to get to?

Mr. WATSON. We have a backlog of nearly 200,000 applications.

Representative HOLIFIELD. How far does that go back?

Mr. WATSON. The oldest?

Representative HOLIFIELD. For your original processing and referral back to the applicant.

Mr. WATSON. I am afraid I didn't quite understand your question.

Representative HOLIFIELD. What delay does an applicant have in his receiving a response from you on the processing of his application? You have a backlog of 200,000 cases. How dated are those backlogs?

Mr. CROCKER. About 12 months is our oldest date on that.

Representative HOLIFIELD. In other words, it takes you about 12 months to get to the action.

Mr. CROCKER. That is only our maximum. We have other divisions that are within 3 months.

Representative HOLIFIELD. I see. You have different divisions and it varies?

Mr. CROCKER. That is right. In the electronic arts where it has been difficult to recruit competent examiners the waiting time is longer that it is in some of the other arts where we are fully staffed. Approximately 12 months is our maximum period. That is only in a few of the fields.

Representative HOLIFIELD. That is, generally speaking, a pretty long time?

Mr. WATSON. Yes, it is.

Representative HOLIFIELD. We are not blaming the Patent Office for this. It is evident to me that you are lacking in people to process the applications that are pouring in on you.

Mr. WATSON. Yes. It is the major objective of the Patent Office and has been for the past several years, to bring our operation into a state of currency, meaning a minimum time, a prompt action, so that the inventor who wishes to know what attitude the Patent Office will have upon the question of patentability will be able to get it within 3 months and also to receive an action on a resubmitted appli-

ction within 3 months, which we think is necessary under conditions which obtain in the world today, with the competition which we have.

Representative HOLIFIELD. I hope you will list me as one of your champions of that cause on Capitol Hill.

Mr. WATSON. We are working hard at it.

Representative HOLIFIELD. I agree you should have enough people to process these patents and it is important to our whole technology that they be processed in a faster manner.

Mr. WATSON. As Mr. Crocker said, some of our divisions are delayed because of our inability to get proper men from the colleges to fill vacancies. But others are quite current.

Mr. TOLL. Mr. Commissioner, the charts which you kindly furnished the committee directly, reprinted at page 51 of volume I, if you have that handy, would indicate that there are a considerable number of applications filed as far back as 1944 or 1945 in the atomic energy field that are still pending.

Doesn't that cause a substantial delay?

Mr. WATSON. That is correct. For instance, in the year 1945, there are 214 still pending as of June 30, 1958, and 173 have become abandoned, 212 have become patented.

Under the secrecy system the applications in that category, ones which disclose important inventions relating to the field of atomic energy, proceed very much more slowly. They may be delayed as much as 5 years at one clip by a secrecy order saying that this application shall not be taken up for action for 5 years.

So that accounts for the delay.

Mr. TOLL. There was more secret information in 1945 than in 1950, for example, where there are not so many applications pending. Is this large number primarily attributable to secrecy orders?

Mr. WATSON. All the way through. By the shading you can see those which remain pending in 1950. I would say it is one-third of the total of 200, or about 60. The larger portion of the remainder have become patented and the intermediate group abandoned. These are charted by filing date. These bars in 1950 represent the present status of the applications filed in 1950 in this field. It is interesting to note in the first chart that the public is beginning to interest itself in the field of atomic energy to an increasing extent, gradually increasing since the year 1950. For instance, there were filed in 1957 about 719 privately owned applications.

It is also interesting to note that the percentage of foreign Government-owned applications seems to be increasing in 1957. Some 85 were filed. In that year the United States Government filed 121.

The interesting part to me is that the privately owned applications are being deposited in the Patent Office in increasing numbers.

Mr. TOLL. Thank you, sir.

Representative HOLIFIELD. My next question, as for the 30-day period to file a statement under oath in section 152, hasn't the Patent Office circumvented the statute by the "informal" 45-day notice?

The second question would be, do you need that statute amended?

Apparently you have been forced by circumstances to circumvent it by making an informal notice of 45 days as being satisfactory.

Mr. WATSON. I am not quite certain that I fully understand the nature of your question. You perhaps wish us to tell you whether or not our 45-day plan is a success?

Representative HOLIFIELD. The statute calls for a 30-day period.

Mr. WATSON. Yes.

Representative HOLIFIELD. Notwithstanding that you have granted 45 days?

Mr. WATSON. We do not grant 45 days because we have no statutory authority to do so. But 30 days is the time which is allowed an applicant after he receives the official notice from the Commissioner of Patents. Thirty days is an impractically short time because some of the applicants reside abroad or at great distances.

So we have adopted by arrangement with the Atomic Energy Commission and for our own safety and convenience, and for the protection of the applicant, an unofficial system of transmitting to him a nonstatutory warning letter 45 days ahead of the day on which the statutory letter goes forth officially from the Commissioner, notifying him that he can expect to receive in about 45 days an official request.

In that way he can prepare himself in ample time to make his statement.

Representative HOLIFIELD. Would it be helpful to you if we could change that day period to 75 days?

Mr. WATSON. I think that it would. It would then render legitimate what perhaps now is not legitimate.

Representative HOLIFIELD. We are in a purely cooperative spirit today. We want to help you exactly what the law requires because we found already you are a stickler for the law and your interpretation of it. So we want to help you if we can.

Mr. WATSON. Mr. Crocker has pointed out that the 45-day advisory letter has this beneficial effect: Most of the people who reply, reply rather promptly. They don't wait for the 30-day ultimatum, you might say. If they make an improper reply which needs correction or amplification we catch it in time and advise them to file a more perfect reply.

Whereas if it were all lumped together in one statutory period there is some possibility that a person who delayed toward the last would then file his imperfect reply too late and lose, there being no right vested in us to extend the time or to have mercy on the applicant.

It is a two-sided question, but nevertheless I do believe that we would welcome a change in the statute extending the time and we would take such other steps as would prove to be necessary to prevent the improvident man from losing out.

Representative HOLIFIELD. One final question: Are your procedures for reporting atomic energy applications to the AEC as efficient as possible, and could you give me an idea of the time lag that occurs between your receipt of an application and your notification to the Atomic Energy Commission?

Mr. WATSON. I would like to have this particular answer given to you by Mr. Campbell, who is the expert in that activity.

Mr. CAMPBELL. The area of this question is possibly the most difficult that we have run into. In the usual route of an application coming into the office, it comes into the mail room, goes to the application branch, and from there it is distributed to a little over 70 divisions, at the present time, including the classification divisions which also have an examining operation. Those applications when they go into the examining divisions are reviewed by the chief or

assistant chief of the division for proper classification, and if at that same time he notices that it comes within the purview of section 151d, he sends it to the Patent Security Division for reporting to the Atomic Energy Commission.

The time is normally very short. Normally in the course of getting into the office, it comes within a month or so of the time of filing. Sometimes the application to Atomic Energy is not noticed when it first comes in, and there we have occasions where there is a little delay.

It may be noticed for the first time when the application is received and examined by the examiner who takes it up. That might be from 3 months to a year after it is filed. I don't know what we can do about that. Once it gets to the Patent Security Division, it is promptly taken up and every month a list of applications that are submitted from the examining divisions are furnished to the Atomic Energy Commission.

Representative HOLIFIELD. Once a month?

Mr. CAMPBELL. Yes, once a month.

Representative HOLIFIELD. So your delay occurs before it is referred to the Security Division or in the Security Division because of backlog.

Mr. CAMPBELL. That is right.

Representative HOLIFIELD. You would say, then, that outside of a mistake of not having it properly referred to the Security Division that your basic trouble there, as is true with the rest of your lag time, is due to lack of qualified people to process applications?

Mr. CAMPBELL. Yes, sir.

Representative HOLIFIELD. Are there any further questions?

Representative HOSMER. I would like to ask the Commissioner for a brief comment respecting the matter I took up with the Commission witnesses, as to the possible advisability of some kind of registration and subsequent disclosure when declassified as an alternative to regular patent procedure, inasmuch as practically all of the Commission's patent applications are of a defensive nature and I suspect to a large extent those of industry as well.

Mr. WATSON. Meaning the possibility that instead of securing patents, adequate publication may be had which would have this defensive value?

Representative HOSMER. A registration initially, and then you could not have publication immediately if there were security things involved.

Mr. WATSON. To avoid the delay and expense involved in the prosecution of an application through the Patent Office.

Representative HOSMER. Yes.

Mr. WATSON. There have been various suggestions made which, if adopted, would have that effect, in times gone by. I believe one is currently under consideration by the Senate Subcommittee on Patents, Tradesmarks, and Copyrights.

In the event that no use is made of patents as patents by a governmental agency which just piles up patents without using them—I would be much in favor of saving the cost of the original preparation into patent application form and the work of the examiner and the difficult work of examination by adopting some alternative. The

Government has many patents, as you know. The system of free licensing is not a procedure which utilizes the patent. Government-owned patents have some defensive value, but the large amount of labor spent in the prosecution of the claims, which is the hard part, is largely wasted.

Representative HOSMER. Assuming this system is not now proven in value for general application—it could be proven only by experience—but a limited application to the atomic energy field would give you the experience for actual evaluation of whether or not it would be a good procedure for general application, would that be helpful?

Mr. WATSON. Except for a greater degree of secrecy in the atomic energy field, it is hardly possible to draw a line between that field and any other field insofar as the puzzle to avoid the prosecution costs is concerned. I understand that the filing of applications abroad—listening to the testimony of those who preceded us here—on inventions relating to atomic energy may have value. If such filings have value the filing of applications in this country as a preceding step would be in order, to establish an early filing date.

So if you filed abroad you would have to do the same work. After all, the foreign application is just a duplicate of the U.S. application.

Representative HOSMER. So far they indicated that only about a third of the domestic filings were carried abroad.

Mr. WATSON. In the event that those were the only important patents to be obtained, then there would be a saving in not filing on the remaining two-thirds in this country. That would be my guess, on the theory that no use would be made of those patents as patents.

Representative HOSMER. I doubt that there would be, but if such provision were seriously being considered for inclusion in this bill, would you object to it?

Mr. WATSON. Would you mind repeating that? I didn't quite catch it.

Representative HOSMER. In effect, I am asking you for what amounts to a departmental report on whether or not to include this in this bill.

Mr. WATSON. A provision which would make it unnecessary for the Atomic Energy Commission to file applications in the United States?

Representative HOSMER. A registration and subsequent disclosure procedure essentially as you mentioned that the Senate subcommittee has been considering for general application, but with the necessary dovetailing of it to the atomic energy situation.

Mr. WATSON. I think that question would probably have to be answered by the gentlemen from the Atomic Energy Commission. It wouldn't make much difference to the U.S. Patent Office. It would deprive us of a good customer, perhaps, and make it unnecessary for us to process as many applications as we now process—and important ones—but at the rate at which applications are currently being filed from all over, which is between 75,000 and 80,000 a year, the absence of some coming from the Atomic Energy Commission would not be important from our point of view. I am considering this strictly from the Patent Office point of view.

Representative HOSMER. I imagine you are cautioning against shooting from the hip on this particular item.

Mr. WATSON. Yes, I like to think these things over a little bit.

Representative HOSMER. Thank you very much, sir.

Representative HOLIFIELD. Mr. Watson, we will take into consideration your testimony in regard to the change from the Board of Interferences to the district court, and we will require some testimony from the AEC counsel on that point before we make any decision on that.

I want to thank you gentlemen. It is a pleasure to have you before this committee. I don't think we have had you before us before. We hope the experience has not been too onerous on your part. You have been very helpful to us.

Mr. WATSON. I think, Mr. Chairman, we have been most courteously treated and we thank you for having the opportunity to appear. I am sorry we were not better prepared to answer your questions, and regret that we were rather ignorant about the legislative history referred to so often.

Representative HOLIFIELD. If I may say, the members of this committee sometimes ask a lot of questions.

The meeting is adjourned.

(Whereupon, at 5:15 p.m., Tuesday, April 21, 1959, the subcommittee recessed, to reconvene at 10 a.m., Wednesday, April 22, 1959.)

ATOMIC ENERGY PATENTS

WEDNESDAY, APRIL 22, 1959

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON LEGISLATION OF THE
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:44 a.m., in room P–63, the Capitol, Representative Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Aspinall, and Van Zandt, and Senators Hickenlooper and Dworshak.)

Also present: James T. Ramey, executive director, David R. Toll, staff counsel, Joint Committee on Atomic Energy.

Representative HOLIFIELD. The subcommittee will be in order.

The Subcommittee on Legislation is meeting this morning to continue public hearings on atomic energy patents.

Our first witnesses this morning are representatives of the AEC, Mr. L. K. Olson, General Counsel, and Mr. Roland Anderson, Chief of the Patent Branch. Yesterday afternoon we completed the first 13 pages of your statement, Mr. Olson, and therefore we can begin this morning at the top of page 14. I hope that we will be able to finish your statement soon, because we are also scheduled to hear this morning from Mr. Jo Baily Brown of the AEC Patent Advisory Panel, and two other witnesses. This afternoon we are scheduled to hear from four or five additional witnesses.

If any of the witnesses scheduled to testify later in the day are in the audience now, we would appreciate it if they would deliver copies of their statements to the committee now.

We are glad to have you here this morning, gentlemen. Please proceed.

STATEMENTS OF LOREN K. OLSON, GENERAL COUNSEL, AND ROLAND ANDERSON, CHIEF, PATENT BRANCH, OFFICE OF GENERAL COUNSEL, AEC—Resumed

Mr. OLSON. Section 152, as previously noted, implemented the contractual patent provisions employed by the Commission. To clarify the section, it is recommended that the phrase "contract, subcontract, or arrangement entered into with and for the benefit of the Commission" be substituted for the existing phrase "contract, subcontract, arrangement, or other relationship" wherever the latter phrase appears in section 152, as well as substituting the phrase "in the course of or under" for the existing word "under" or for the existing phrase "in the course of, in connection with, or under the terms of." Further-

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more, the clarifying parenthetical phrase has been suggested so as to obviate the necessity for any statement where the rights of the Government have already been determined. In order to assure contractors that determination of rights pursuant to a contractual provision prior to the request of the Commissioner of Patents shall be final, in the absence of misrepresentation or nondisclosure of material facts, the sentence to this effect is added to the last paragraph.

The present provisions provide for the determination of disputes by the Board of Patent Interferences. The transfer of this function to the U.S. District Court for the District of Columbia is suggested in the belief that the court is better equipped to resolve disputes as respects title to subject matter.

Section 152 sets forth a procedure whereby the rights between the Commission and the contractor in a particular invention may be determined. In the report to the Joint Committee on December 4, 1958, it was noted that rights had been acquired by the Government on applications subsequent to the receipt of a notice under section 152 in some 13 situations and since that time rights have been acquired in several others and directives have been filed with respect to a number of additional applications.

We have filed a total of nine directives, four of which have been settled, leaving a balance of five pending.

Representative HOLIFIELD. Mr. Olson, will the proposed new language in section 152 apply to a subcontractor of a subcontrator?

Mr. ROLAND ANDERSON. We trust that the language that says "contract, subcontract, or arrangement entered into by or for the benefit of the Commission" would include lower tier subcontractors. In the clauses that are employed there is a provision that prime contractors apply the same provisions to subcontractors unless the Commission modifies the provisions for any given subcontract.

Representative HOLIFIELD. So your interpretation of the word "arrangement" would be such as to make it inclusive of the different tiers of subcontracting, plus the regulations and requirements in your contract, unless otherwise specified by the AEC?

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. What is the criterion for this reasoning? Is it the use of AEC funds, or is it the relative relationship of prime contractor, subcontractor, or sub-subcontractor?

Mr. ROLAND ANDERSON. The principal aspect of the provision would cover Government or AEC sponsored and funded research and development. By sponsored, one I suppose would include such things as the employment of unique Commission facilities under special arrangements and special circumstances. So it may not necessarily just mean money, but it may also include the use of property.

Representative HOLIFIELD. That is why you have the phrase in, regardless of whether the contract, subcontract, or arrangement involved expenditure of funds by the Commission?

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. It might well include services other than funds of the Commission, such as materials, equipment, information furnished by the Commission that would fall within the Commission's patent ownership.

Mr. ROLAND ANDERSON. Yes, sir.

Representative HOLIFIELD. Can we get to this point? But before we leave this, the reason for removing the words "or other relationship" with the Commission is for clarification purposes, and to remove a certain amount of ambiguity in the existing language. Is that so?

Mr. OLSON. That is certainly correct.

Representative HOLIFIELD. Is it not the purpose of weakening in any way the Government's legal position?

Mr. OLSON. It does not eliminate anything that we are entitled to in any sense. This was entirely too broad. You will recall, Mr. Chairman, that we even had to give an opinion that licensees would be covered by waiver. I am sure the committee did not intend that it be that sweeping. This was generally objected to by almost everyone who discussed the problem with us.

Representative HOLIFIELD. What relation does this removal of language have to complaint of certain universities who have traditional procedures under their patenting arrangements with students and employees in their laboratories? Does this have any modification of this position?

Mr. OLSON. I don't believe it has any bearing on that, Mr. Chairman. This is simply to make it possible to confine the application of this language to the cases that we are really interested in, namely, those situations where we either have a contract with the individual to fund it and pay for the research, or where they are using our unique facilities or some of our personnel are working jointly on a public and private project. I would say that this has no relation to the university problem.

Representative HOLIFIELD. The committee has received letters from two, I believe, or maybe more universities in regard to the present language in the bill. They have indicated that that interferes in some way with their traditional procedures. Has it been your experience in the Commission to have received complaints from universities in regard to your patent regulations and requirements of the act, and if so, what validity do you think they have?

Mr. OLSON. Mr. Chairman, I think there were some very valid concerns expressed over the great sweeping range of the language which was in the statute. That is why we have recommended this change. There were people that felt that even writing a letter to us might constitute some relationship with us. This language was very sweeping, and I think many people were most sincerely concerned about just how far it did go. I think that this should meet a good deal of the objection that has been expressed in that area.

Representative HOLIFIELD. Mr. Toll.

Mr. TOLL. Mr. Olson, the letter that Mr. Holifield has received from Princeton University, the principal complaint about the patent provision is that they operate on a no-fee or noprofit basis. Therefore, they maintain that their contract should allow them to have the patents. Can you comment on that point?

Mr. OLSON. I have not seen this letter, Mr. Toll. I don't think that the question of fee has anything to do with it. If their research is funded by AEC funds, I believe the general rule would apply that we have endorsed here, that inventions arising out of public funds we feel properly belong in the public domain.

(The letter and report from Princeton University appear on p. 194.)

Representative HOLIFIELD. Are there any further questions on that point? If not, let us get into this subject of changing from the Board of Patent Interferences to the district court. We would like to have some testimony in regard to that matter.

Mr. ROLAND ANDERSON. The Board of Interferences which is in the Patent Office has limited jurisdiction at the present time, except for the Atomic Energy Act, and the Space Act, to determine questions of priority. Their proceedings generally are done by deposition, without the confrontation of witnesses before the Board. The Board has had no experience with respect to the determination of rights of title. The feeling expressed by our Patent Advisory Panel and by others was that the courts generally have questions of title come before them, that hearings can be had in open court, cross-examination of witnesses, the hearing can be held at one time, and this might perchance shorten the proceedings. It was therefore the recommendation of our panel and the Commission adopted it, that we would make a recommendation that these hearings be held before the U.S. District Court for the District of Columbia. There was no feeling that from past experience the Patent Office was not capable of conducting this type of activity. The experience we have had with the Patent Office thus far is nil on the point of hearings, because of the settlements as Mr. Olson said. The first four we settled after discussion with the counsel for the respective applicants, and the other five are now set for hearing or are in various stages of Patent Office routine. The first one I believe is set for a hearing on depositions of the applicant in some 60 days. I trust that this kind of a general presentation sets forth the overall position with respect to this. I don't feel we have any strong belief that it should be taken away from the Board of Interferences and it was just as Mr. Olson expressed in the statement, the feeling that the court might be in a better position to handle these matters.

Representative HOLIFIELD. What questions are involved here? Is this the question of establishing priorities of application or does it go into some of the technological aspects of a patent application?

Mr. ROLAND ANDERSON. The principal question that would be resolved is the question of title ownership, of the subject matter of the patent application.

Representative HOLIFIELD. Would this require expert patent technological information to make this kind of a decision, or would it require regular judicial processes of establishment of fact?

Mr. ROLAND ANDERSON. The determination would involve the interpretation of the contract and the scope of the work and its relationship to the subject matter of the application. It might therefore get into the technical question as to whether or not this subject matter is within the scope of the contract, whether the work that has been rendered under the contract relates to the subject patent application. So I think you would cover the breadth of both technological information and contract interpretation, and application of the contract provisions to the particular invention.

Representative HOLIFIELD. Why, then, would it not be better to leave it in the hands of the Patent Interferences Board which has to deal, you might say, in a specialized way with these problems rather than a judge of the district court which has the whole scope of the law to consider?

Mr. OLSON. Mr. Chairman, I think that the Board of Patent Interferences has had little, if any, experience on this question of title. As Mr. Anderson said, this is a unique conferral of jurisdiction to the Board of Patent Interferences under our act. I want to make it clear, we don't feel strongly about this issue. It was recommended by Mr. Ooms, who is an outstanding authority in the patent field and former Commissioner of Patents. He has recommended it. Mr. Brown, who is also on that advisory panel, is neutral on the issue. But with the strong recommendation from Mr. Ooms, and since this is a question of title under 152, a question of determining who has the rights, whether the particular invention arose out of our contract, it could easily be concluded by professionals that it belongs in the district court. It is a close question, and we don't believe strongly. If there is any serious objection, we seriously would back off from this particular recommendation.

Representative HOLIFIELD. Could you say that this transfer would expedite the handling of the cases? I am thinking now of possible delay under the present arrangement as against a more expeditious handling or vice versa in the recent court.

Mr. OLSON. I am a recent practitioner. I am of the personal opinion that it would expedite it if we made this change. Many would not. Many of us in private practice prefer the district court method where there is a confrontation of the witnesses. It is all done in the presence of the court. There are others who would prefer the deposition procedure of the Board of Patent Interferences.

Representative HOLIFIELD. In one case you would be under the Administrative Procedures Act, and in the other case you would be under the regular procedures of the court.

Mr. OLSON. Yes, but in that sense I don't believe it would make any difference, because all the guarantees of the Administrative Procedures Act are present in court. The freedom from ex parte taking of evidence, the matter of written decision, and so forth. I think all of the guarantees of the Administrative Procedures Act are certainly present in both cases so that that is not a factor here.

Representative HOLIFIELD. The fact that you are allowed to present certain evidence before an administrative procedure body that you are not allowed to present before the court would not change your opinion in that matter?

Mr. OLSON. No, sir. I believe everybody would be satisfied that justice would be done in either case. There is no preference in that respect.

Representative HOLIFIELD. What happens if a contractor fails to file a section 152 statement under oath and the Patent Office fails to notify AEC under section 151(c) and the patent issues to the contractor, even though the AEC would normally have rights? Can the AEC compel assignment under that situation?

Mr. OLSON. I would be of the opinion ultimately that it could. That has many ramifications and I would like Mr. Anderson to cover those.

Mr. ROLAND ANDERSON. The only procedure that we would have is a resort to court action in a suit in equity. There is nothing in the act at present which would give us the right to go in and assert rights unless there was a false statement that had been made in the proceeding in the Patent Office. Under the circumstances that you outlined,

you said that there was no statement and therefore that type of action would not be available for us. So the only remedy that I know that the Commission would have would be the same as any other party arising out of a contractual situation, of a suit in equity to secure the transfer of the patent.

Representative HOLIFIELD. And any penalty for noncompliance on the part of the contractor would not protect you necessarily. My thought was that if you write into the act penalty language—let us say that you would write into it a provision that the Patent Office should not issue a patent to a contractor unless they had in their hands a copy of the filing of the contract or under section 152 under oath—if that would be of any protection or would it be unnecessary? The point I am trying to get at is how does the AEC protect itself in its rights in case of failure of the contractor to comply with the act, filing a statement under oath to the AEC, which in turn should have some effect upon the Patent Office's action.

Mr. ROLAND ANDERSON. Prior to the time that the situation would arise under section 152, the Commission would have reviewed the work of the contractor, and we have set up procedures for the examination of technical reports, for the examination of notebooks, for interviews with the supervisory personnel of the contractors, and by those procedures we would hope that the Commission would have been able to secure reports of inventions on those inventions which the contractor has failed to report. However, it is conceivable by human error that the Commission might not examine a report and pick up a technical invention in a particular instance. It might also be that the Patent Office might not request a section 152 statement in view of the fact of the failure to recognize that it was an invention in the atomic energy field. Under those circumstances, as outlined before, the Commission would have resort first to the contractor to attempt to negotiate its position with the contractor, and upon failure, if the evidence were such, to initiate court action for transfer of the rights to the Government.

Mr. TOLL. Does the Commission initiate the court action or the Attorney General?

Mr. ROLAND ANDERSON. Government practice would probably be that it would be initiated by the Department of Justice at the request of the Commission.

Representative HOLIFIELD. Are there further questions on section 152? If not, we will go to section 153. Mr. Toll has a question.

Mr. TOLL. On the adding of the word "subcontractor" does that indicate that this might hurt small business in that you are reaching further down the contracting tier, or are you just clarifying your existing policy?

Mr. ROLAND ANDERSON. The "subcontractor" was in the 1954 act. The present language is "contract, subcontract, arrangement or other relationship." What we have attempted to do is to clarify that by saying "contract, subcontract or arrangement entered into with or for the benefit of the Commission."

Mr. TOLL. The comparative bill has the word "subcontract" underlined.

Representative HOLIFIELD. Subcontract is an addition to the basic language.

Mr. ROLAND ANDERSON. It is not in?

Representative HOLIFIELD. I say it is an addition to the basic language.

Mr. ROLAND ANDERSON. It is not in the first sentence. But in the 152 proceeding in the Patent Office down below, you will note that it was stated in terms of "contract, subcontract, arrangement or other relationship." In order to clarify and make it uniform throughout the section, it was inserted in the first sentence. But basically we have always understood that so far as the procedural activities under section 152 are concerned, subcontract was already in the bill.

Mr. OLSON. This was intended as purely editorial and we did not intend it to extend jurisdiction.

Representative HOLIFIELD. I think it is a good suggestion. Mr. Ramey has a question.

Mr. RAMEY. Yes, sir. You discussed the matter of the waiver language and you indicated that you would not expect to have a blanket waiver that would change essentially the policy of section 152.

Mr. OLSON. No.

Mr. RAMEY. Would there be any objection to putting language in your waiver provision there where it says "except the Commission may waive its claim to such invention or discovery under such circumstances" and then put an insert "consistent with the policy of this section as the Commission may deem appropriate", which would make it perfectly clear, then, that you would not be making a waiver that might adopt, for example, the Department of Defense policy on patents.

Mr. OLSON. Since we have no intentions along this line, we would have no objection to anything you wanted to do to strengthen the language because it is apparent that we do not intend to change the policy. So we would have no objection. I think it is quite clear the way it is.

Representative HOLIFIELD. Would you comment on the change which you have made in the phraseology of "deemed to have been made or conceived by the Commission" which you seek to eliminate, and insertion of "vested in and be the property of the Commission"?

Mr. ROLAND ANDERSON. The purpose of that change was to meet certain objections that have been made as to the technical patent legal language. To say it is deemed to be made by the Commission is sort of contrary to the principles that the only one who can make an invention is the inventor. Since the purpose initially of the act was that the rights should vest in the Commission or the Government, it was thought that clarifying that language by saying that the rights shall be vested in the Government was preferable to saying that it shall be deemed to have been made by the Commission. Under the philosophy of the American patent system, the inventor is the only one who is deemed to have made an invention.

Representative HOLIFIELD. Have we missed any point in 152; changing from the word "forthwith" to your new phraseology is more descriptive of the procedure?

Mr. ROLAND ANDERSON. That is right.

Mr. TOLL. What is the reason for the last sentence added to section 152?

Mr. ROLAND ANDERSON. Industrial representatives at the April 1958 meeting criticized the Commission for not having made a general waiver which would say that when rights had been determined

under a contract, that that no longer required any activity under section 152. In many instances the rights in inventions that are made under contract are determined, and consequently it was the feeling of the Commission that it might be well, therefore, to have express language in the statute that would provide that where the Commission has made a determination, that such is a final determination of the Commission in the absence of false material statements or a nondisclosure of material facts by the applicant.

Representative HOLIFIELD. I could see where this would be desirable from the standpoint of having a true understanding in your contract. However, it will place on the Commission the burden of being very careful in making your contracts along this line. If there is a finality to the contract itself, and you are not allowed to go to other parts of the act for sustenance, you might forfeit your rights by failure to properly prepare your contract in this field.

Mr. OLSON. I think we are faced with that whether we add this sentence or not, Mr. Holifield. I think this is desirable from the practical standpoint, because it makes it clear that the determination is final and settles that issue.

Mr. TOLL. Mr. Olson, on these situations where a contractor has filed in this country and wishes to file also abroad, is there any way that he can get a determination of his rights by the Commission within 6 months or prior to the one year period under the international convention?

Mr. OLSON. There is certainly a way. Whether or not it is feasible or practical, I will let Mr. Anderson answer.

Mr. ROLAND ANDERSON. We have made determinations in many instances immediately upon the reporting of the invention. We have indicated to contractors that we are willing to do so any time. In many instances, the contractor has indicated that he prefers that we defer our final determination because he may feel that during the course of the prosecution of the application, the claims may be so limited as to embrace subject matter that might be said to be on the borderline between atomic energy and nonatomic energy. For this reason we have often deferred the consideration of the determination of the final rights until the application is in condition for allowance in the Patent Office. However, at any time the contractor has requested the determination of rights in order to avail himself of the privilege of filing abroad, we have been willing, and as far as I know have made determinations. In many cases, however, the contractor has suggested that we defer because he feels that if he files and we defer consideration, he may get greater rights. Oftentimes it is not a question of the determination being made, but it is a question of the hope that we will make a determination at a later date which will give him more rights than he would have when he first reports his invention.

Mr. TOLL. Has there ever been a situation where the Commission has determined it has the rights but after the Patent Office narrows down the scope of the claim that the Commission has then felt that the contractor had the rights?

Mr. ROLAND ANDERSON. To my recollection there has not been. There have been instances where after the scope of the Patent Office claim has been defined, the contractor at that point has been able to show that the invention has outfield uses, in which event we have

made a determination according the contractor rights in the field of his own business. Where he can show extensive use in the field of the invention he may have exclusive rights in "outfields," as we call it.

Representative HOLIFIELD. Let us proceed now to section 153, Mr. Olson.

Mr. OLSON. Section 153. One of the primary purposes for the review of the patent sections of the Atomic Energy Act, as expressed by the Chairman of the Joint Committee at the March 11, 1959, regional meeting of the American Bar Association, was whether the "compulsory licensing" provisions of section 153 should be extended.

Section 153 provides that the Commission may, after giving the patent owner an opportunity for a hearing grant a license on any privately owned patent, if (1) the invention is of "primary importance" in the production or utilization of special nuclear material or atomic energy and (2) the licensing is of "primary importance" to effectuate the policies and purposes of the act.

The Commission has not exercised the power to date. The very existence of the authority may have a salutary effect and prevent abusive and unhealthy situations. The restrictive conditions and procedures surrounding the exercise of the authority are such that it could only be used in comparatively rare and compelling cases where the patent owner refused to license a Commission-authorized private activity.

Section 153 is not necessary for the Government because it may use any patented invention and the owner's sole remedy is to sue for reasonable royalty or just compensation in the Court of Claims pursuant to section 1498 of title 28 of the United States Code.

One of the situations that could arise for employing this section involves the private atomic power industry. A private company operating a power reactor generating electricity for some local community could find itself subject to a patent infringement charge on a fuel element covered by a patent which was issued subsequent to the construction and startup of the reactor. In such an instance, if the owner refused to license the company, the authority of the Commission under subsection 153(a) could be invoked or the company could initiate proceedings under subsection 153(c). If the company initiated a proceeding and the Commission found that the company's activities met the tests of "primary importance" under subsection 153(e), the Commission could grant a license and if the patent owner and the company could not agree on a reasonable royalty the Commission could, after hearing, fix the reasonable royalties. The only benefit of the normal patent system that the owner of such a patent is denied by section 153 is the injunctive relief. Where the activities are of "primary importance" the need to deny such relief in the public interest does not permit of serious questioning.

It is felt that, at least for the present, the policy set forth in section 153 is sound, and the Commission therefore has suggested a 5-year extension. As expressed in the transmittal letter:

> The Commission feels as it did in 1954, that patent incentives are a necessary and desirable stimulus to the development of peacetime uses of atomic energy. At the same time the Commission believes that the desirability of patent incentives must be balanced against the possibility of enlarging the preferred position of the necessarily limited number of companies, many of whom have developed their experience substantially at public expense. The Commission believes that

this balance can best be achieved through continuation, for an additional period of 5 years, of the compulsory licensing provisions of section 153, for as President Eisenhower stated in transmitting the 1954 atomic energy legislation to the Congress, "Until industrial participation in the utilization of atomic energy acquires a broader base, considerations of fairness require some mechanism to assure that the limited number of companies, which as Government contractors now have access to the program cannot build a patent monopoly which would exclude others desiring to enter the field."

Representative HOLIFIELD. I think the Chair can say that he is pleased with this position on the part of the Commission. I agree that there is not a broad enough base yet in this field, nor have we developed the art near enough to the point of economic use for the people for us to relinquish the Government equity which has been acquired through the expenditure of public moneys. As soon as we can get to that point, I would like to see this section removed. But I certainly agree that it may take another 5 years to get to that point.

Mr. OLSON. That is our feeling.

Representative HOLIFIELD. I think it is the point of wisdom to keep this in effect for the next 5 years.

Mr. OLSON. We recognize that this is a very tender issue of principle with many patent lawyers and the Patent Bar Association, and we have considered that seriously.

Representative HOLIFIELD. It is more a matter of traditional principle with them, however, than a matter of effect upon the present situation. I doubt if anyone in industry has ever asked the AEC to use this provision.

Mr. OLSON. That is right. It is purely a matter of principle, Mr. Chairman. We have had no actual situation come up to test it.

Representative HOLIFIELD. You have had no one in industry ask for this type of cross-licensing.

Mr. OLSON. That is right.

Representative HOLIFIELD. This would indicate that they do not need it or that there is no patent position that would require a request of the Commission.

Mr. OLSON. I might point out that this is not too far afield from the eminent domain approach to the issue. There might be an eminent domain aspect come up if someone held a patent which was of such basic importance to the advancement. So this is not completely foreign to other remedies that are present in our law.

Representative HOLIFIELD. In case we do develop the original patent position such as in the field of thermocouples, as fusion develops, by some private party, would not this compulsory licensing be useful in the national interest?

Mr. OLSON. It might be very necessary. That was one of the factors, Mr. Chairman, that we considered in deciding to recommend its extension.

Representative HOLIFIELD. Is the Government patent position at the present time so strong in the reactor field that a private patent calling for use of this section is unlikely?

Mr. OLSON. I don't believe we can say it is unlikely. It is the possibility that makes us want to continue this section. There is always that possibility in this infant stage of development.

Representative HOLIFIELD. There is a possibility and therefore you think it is wise to retain it.

Mr. OLSON. Yes, sir.

Mr. RAMEY. What is the practical situation at the present time with private applications that are pending for patents that might be subject to the compulsory licensing? It might be an important patent when matured. What is the practical situation of an outfit that would want to go ahead in using this type of invention? For example, a safety device for a reactor that an equipment company that has developed privately and is using on its reactors, and has made no secret that it has a patent application on it, and someone else would like to go ahead and utilize that safety invention on its reactor?

Mr. ROLAND ANDERSON. Of course, Mr. Ramey, at the present time, until a patent issues, you can use anything you are aware of, or are knowledgeable about. The situation that you are considering would develop if a patent issues on one of the pending applications of a private party, what the situation would be then? Is that your question?

Mr. RAMEY. No. I just meant from the standpoint of an equipment company where there is an application by somebody else on an important invention, and whether or not they would go ahead and try to use this particular invention or would they try to negotiate with the other outfit, or what would be the normal practice? In other words, would this inhibit them from using a device, waiting until the patent issues, which might be several years, and thereby holding back this type of development?

Mr. ROLAND ANDERSON. Not in my opinion would it hold back. In other words, the same policies and practices that industry applies in other situations is available in the atomic energy area.

Mr. RAMEY. And what are those practices?

Mr. ROLAND ANDERSON. Generally speaking, if a company becomes aware of a pending application through some means or other, generally by contract negotiations, because they see advertisements where companies are interested in certain fields, the company that may have the application pending might communicate with such equipment manufacturer or through some attorney or some other way, and indicate that they have a patent application pending which they hope to go to issue and secure strong claims and would such company desire to take a license so that they can start manufacture at the present time and continue to manufacture after the patent issues. This is normal procedure in the patent profession. Many agreements are negotiated where royalties are paid prior to the issue of the patent in the hope that the patent that is issued will be a strong and forceful patent.

This same situation can exist and does exist in the atomic energy art as in any other art.

(For statement by Mr. Bennett Boskey concerning possibility of extending section 153 to cover applications as well as patents, see p. 160.)

Representative HOLIFIELD. We will go to section 155.

Section 155

Mr. OLSON. Until the enactment of section 155 prior knowledge or use in order to bar a patent application or to invalidate a patent was required to be available to the public in the form of a publication or some other public demonstration. Secret or other nonpublic records

were not available to defeat a patent application or the patent. Under section 155 prior work within the Commission program, even though secret, bars the patent. The proposals suggested are to clarify the point that patents as well as applications for patents are embraced within section 155 and to resolve a latent ambiguity as to the time of the effectiveness of the provision, namely, that it is the prior art as of the date the inventor claims to have made the invention.

Representative HOLIFIELD. As I understand it, from your explanation heretofore, if you wanted to establish a position of having established a condition of prior art knowledge, you would have to prove by public publication or other publicly known evidence that such a condition existed. Subsequent to the enactment of section 155, we included in this area of barring a patent the fact that there might be secret knowledge on file, let us say for a device which was considered valuable to the national defense, possible application to weapon use, and therefore if that prior art had been established and had been withheld from public knowledge, subsequent to the establishment of that position a private citizen comes along and discovers the same art and which may be applicable to a peacetime use as well as to the use for which the Government had kept it secret, at that time the Government has the right to come in and say, "You do not have the right to a patent on this because there is prior knowledge in the secret files of the Government. This was established prior to your application and has been in use by the Government or available to the Government for use in the weapons field." Is this the point to which you are directing this?

Mr. OLSON. This is substantially the effect of section 155 as it has been in existence since its enactment. That is right.

Representative HOLIFIELD. The effect of your additional language is to pin down the application for an invention as well as the invention, is that right?

Mr. OLSON. That is correct.

Representative HOLIFIELD. Has section 155 been invoked by the AEC on any occasion in the past?

Mr. ROLAND ANDERSON. The Patent Office is the one who would invoke section 155.

Representative HOLIFIELD. They would do that on the advice of the AEC.

Mr. ROLAND ANDERSON. They would do that on the basis of facts submitted to them, i.e., on the basis of classified reports that have been declassified. The Patent Office so far as I know has used reports that at one time were classified and are no longer classified under the provisions of section 155.

Representative HOLIFIELD. And have they cited our patent applications, because of the fact that there was prior art known to the Government?

Mr. ROLAND ANDERSON. I believe it would be fair to say that they have used them and cited them in the prosecution of applications, and whether they have actually defeated a patent application or merely limited the scope of the claims is a matter I think the Patent Office is better qualified to answer. In my opinion they have used the section 155 art for purposes of prosecution of applications in the Patent Office to limit or to bar applications on classified information

that has been available in the files of the Commission and is no longer classified, and now fully and completely public.

Representative HOLIFIELD. What action would be taken upon classification by the AEC of the information?

Mr. ROLAND ANDERSON. Generally the Patent Office has also been given access to information which is still classified and I believe has employed such information in several instances. I am not able to say whether they have done that very often. I can say this. They have used that kind of information in the prosecution of applications filed by the Commission. They have used our own art against us.

Representative HOLIFIELD. Therefore, they have limited the field of application thereby.

Mr. ROLAND ANDERSON. Yes, sir.

Representative HOLIFIELD. I can see where this would present a very difficult situation where a body of prior art would have dual application to weapons and to peacetime use. There would be a very fine line of judgment to be exercised there in the granting of rights for peacetime application which might thereby disclose processes which could be used by other countries in weapon production.

Mr. ROLAND ANDERSON. I don't think 155 is limited to the employment of weapons information, but it is to the employment of classified information. Generally speaking it is true as of today that most of the information that is classified pertains to the weapons aspects of atomic energy. But there still may be some that is not declassified that does not pertain directly to the weapons aspects.

Mr. OLSON. In view of the extensive declassification that is taking place since the enactment of this act, I think we have improved the section a great deal. I think there should be much less complaint now than earlier when so much more was under classification.

Mr. TOLL. Inasmuch as one can't obtain a patent on a weapon under section 151 (a) and (b), why is this section necessary?

Mr. OLSON. As Mr. Anderson pointed out, this does not apply only to weapons. Ordinarily it would have either a dual or a single weapons aspect to it, or probably would not be under secrecy. This is for the inventor who has come up with something that has other than weapons use which would therefore be patentable, but it is under our prior art still under secrecy.

Mr. TOLL. This might be a military reactor.

Mr. OLSON. It could be a discovery that would have great domestic application but it has simultaneously a weapons application. For that reason that information is under secrecy.

Mr. TOLL. There is an effort by the Commission to declassify any information. It does seem unfair to an inventor to find out for the first time that the Commission has already done some work in this field.

Mr. OLSON. It is most unfair. That is why I emphasized that the area of unfairness has been diminished greatly in the last couple of years by the wholesale declassification. We are attempting to declassify everything that can be declassified. There are still areas of information where an inventor might come up against this problem of prior classified data, prior art in a classified area, and he would have wasted his effort, in effect.

Mr. TOLL. Have there been instances where applications have been denied because of this section?

Mr. ROLAND ANDERSON. We do not have that information available to us. I think the Patent Office may be able to furnish that information. I would like to clarify one point here a little bit. The situation has developed, let us say, that in 1944 much of this information was classified. It was declassified in 1954. The applicant filed his application on the invention in 1952. If it were not for section 155, the applicant in 1952 would get his patent. But by reason of the fact of section 155, the effect has been that in the prosecution of that application filed in 1952, the Patent Office can use the date of the report in 1944 to defeat or limit the scope of the claims of an application filed in 1952. Therefore, I would like to divorce this question from purely the weapons situation. It is a question really that came about by virtue of classification rather than by virtue of the weapons picture.

Representative HOLIFIELD. I would just like to comment on the subject of unfairness to an applicant. While in the normal course of considerations of patent applications it might be considered unfair to an inventor to not have access to classified knowledge, at the same time the primary importance for classified knowledge is for the preservation of the Nation, and therefore it would be an overriding factor to consider, and I think the act so construes it. The defense of the Nation is the primary overriding factor in any inventions which might have weapon application. Therefore, it is one of those unfairnesses which we have to sometimes bear in our society in order to preserve it.

Mr. OLSON. It is the greater good concept; that is right.

(Subsequent correspondence between the Joint Committee and the AEC, relative to a review of sec. 155 on the Atomic Energy Act of 1954, follows:)

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C., April 25, 1959.

Mr. L. K. OLSON,
General Counsel, Atomic Energy Commission,
Washington, D.C.

DEAR MR. OLSON: In accordance with the request of Mr. Holifield at the conclusion of the hearings on patents on April 23, 1959, it is requested that the Commission review section 155 of the Atomic Energy Act of 1954, and submit a memorandum concerning possible revision of section 155 to provide that prior art shall provide immunity to the Government from suit, rather than a bar to the patenting of an invention.

Sincerely yours,

JAMES T. RAMEY,
Executive Director.

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 6, 1959.

Mr. JAMES T. RAMEY,
Executive Director, Joint Committee on Atomic Energy, Congress of the United States.

DEAR MR. RAMEY: Your letter of April 25, 1959, to Mr. L. K. Olson, requesting comments concerning possible revision of section 155 of the Atomic Energy Act to provide that prior secret knowledge or use shall provide immunity to the Government from suit rather than bar the patenting of inventions has been referred to me for attention.

The general patent statutes, as you know, provide that prior public knowledge or use or publication may be employed by the Patent Office to bar a patent. The basic recognition of section 155 was that this policy as respects knowledge and use should be applicable in the case of the atomic energy program even though such knowledge or use was secret, since the AEC program was for the benefit of the people as a whole and the material was only kept secret because of the requirements of national defense.

The suggestion in your letter would bring the procedure more nearly within the established patent procedures and still give effect to the secret prior knowledge or use in the substantive patent law by making secret prior knowledge or use within the AEC program a defense in a suit against the Government for patent infringement. Any existing problems as to the interpretation and application of the prior secret knowledge or use by the Patent Office under the present section 155 would be avoided and yet, as noted, the Government would be protected against improper suits, provided the implementing statutory section were so drafted as to assure the use of any secret documents and other data as publications.

It is to be recognized that the proposal would only protect the Government and would not give a private party the benefits now available under section 155. Any criticism of preferring the Government might be overcome if the proposal were modified to make such knowledge or use available as a defense in any patent suit, either against the Government or a private party. However, because of the tremendous investment of the Government in the atomic energy program the equities would appear to warrant the Government at least having the immunities that would be granted by your proposal.

Further consideration of the suggestion is certainly warranted in the Committee's deliberation of the patent aspects of the Atomic Energy Act.

Sincerely,

ROLAND A. ANDERSON,
Chief, Patent Branch.

Representative HOLIFIELD. Let us proceed to section 156.

Mr. OLSON. Section 156 provides for the Commission granting licenses on Commission owned patents pursuant to standard specifications. The standard specifications and procedures are set forth in 10 C.F.R. part 81. The Commission has, to date, granted over 740 licenses. The Commission policy as noted is to grant royalty free, nonexclusive licenses on its U.S. patents to all and to grant the same type of nonexclusive license to U.S. industry on foreign patents. The Commission has not determined the terms and conditions under which it would accord licenses to other than U.S. citizens and U.S. industry on its foreign-owned patents.

Suggestions have been made that the Government might alter its traditional policy of granting royalty-free licenses and charge royalties both on domestic and foreign patents as well as grant exclusive license for limited periods. Others have suggested that the Commission might adopt the British and Canadian policy of charging royalties on patents except as against the contractor under whose contract a particular development was made. Others have suggested that the Commission continue to grant royalty free licenses to U.S. industry but that it charge royalties of foreign corporations at least on its foreign-owned patents. It is to be recognized that not only do the British and Canadian Governments charge royalties but other governments and their agencies and owned and controlled corporations such as the French, Dutch, and Belgians charge royalties as they consider patents held by the government or their owned and controlled corporations and agencies a source of revenue. The success of any program of charging royalties would depend in part on the agency enforcing the patent. For example, the Commission or its

licensee might be required to take legal action against an unlicensed user. It is felt that the Commission, under section 156 and 161g has authority to charge royalties, to grant exclusive licenses or to sell its patents outright on such terms and conditions as may be deemed appropriate so that additional legislative authority does not appear necessary.

Representative HOLIFIELD. On that point, I am glad to see that you say that you have the authority in existing legislation, and you refer to 156 and 161g. We have had some communications with regard to this matter, and some of our American industrialists feel that they are put under a disadvantage in view of the fact that our patents are available free at the present time to foreign industrialists while on the other hand if we should need to use an English patent or Canadian patent our industrialists must go in and make a compensatory arrangement with that government.

Looking at it from the standpoint of Yankee bargaining it does seem that the Commission might be wise to explore some type of a quid pro quo arrangement with the British and Canadian Governments or any other governments that might have patents which could be exchangeable with American industry upon application by the industrialists. It does not seem fair that we turn over this great body of patent art to a foreign industrialist to use in competition against us, and give him the additional advantage of patents in his government area without some kind of a compensatory exchange.

Mr. ROLAND ANDERSON. It is the recognition of this kind of position that we have indicated that we are attempting to give considerable study to this problem before taking any action. I think there is just as large a body of American thought that thinks that the U.S. Government should not patent anything as there is that thinks the U.S. Government should never charge royalties either domestic or foreign. You may by charging a royalty in one instance be able to secure some source of revenue but may spend more in getting that revenue than you would by virtue of giving it free.

Also, I suppose there is a consideration in many of these activities, at the present time, that of advancing the Atoms for Peace Program. On this question, one could say, if we charge royalties, and they loan money to the foreign government and it pays part of it back in royalties rather than spending it on research is it advancing the program? I think there are many ramifications on the question of what the U.S. Government should do with patents when it once acquires them. I hope that in the considerations that the committee will be giving in the next several days that this is one of the things that we will hear the various views expressed that will assit us in guiding the program that the Commission should undertake.

Representative HOLIFIELD. Much to my surprise, those who have written me on the subject and talked to me privately have shown no indication of coming before the committee and making a statement on this subject. I am at a loss to know why. It may be because they fear some type of retaliation or repercussion with some of the foreign government industrialists. I am not so sure what the reason is. Suddenly we find there is a lack of enthusiasm on testifying on this subject. I trust the Commission will keep the committee fully informed on its deliberations on this subject.

Mr. ROLAND ANDERSON. It certainly will, Mr. Holifield.

Representative HOLIFIELD. Mr. Ramey.

Mr. RAMEY. On your domestic licensing policy, can a foreign corporation doing business in the United States get a license on our American patents?

Mr. ROLAND ANDERSON. Yes, sir.

Mr. RAMEY. Is that done normally? Do you have a number of licenses issued to foreign corporations?

Mr. ROLAND ANDERSON. Relatively few. I think if one examines the list printed in the committee print, you will note that most of the companies are U.S. corporations.

Mr. RAMEY. So you have this situation, however: A foreign corporation can get a license on U.S. patents in the United States under your policy as it is.

Mr. ROLAND ANDERSON. Yes, sir.

Mr. RAMEY. For example, the British. A British company wanting to sell a reactor here can use our technology and our patents. A U.S. corporation with British patents in Britain would have to pay a royalty; is that correct?

Mr. ROLAND ANDERSON. As I understand the British policy, it is to charge royalties. If this is the case, they would charge royalties, I am sure, of an American company the same as they do of a British company. If the invention was one of those that came under what we have designated as the tripartite agreement, the American company could not be discriminated against in connection with any charge made by the British Government.

Mr. RAMEY. It would have to be the same charge but they could still charge.

Mr. ROLAND ANDERSON. They could still charge.

Section 157

Mr. OLSON. The procedures and status of the Patent Compensation Board proceedings were set forth in the December 4 communication to the committee. The only material change in these matters since that time has been the modification of the rules so that the decisions of the Board are reviewable upon petition of a party. The rules effecting this change were published in the Federal Register on April 10, 1959.

On several occasions the question has arisen as to whether or not there is any period of time as to which the proceedings under section 157 must be instituted. In order to clarify any doubt it is proposed that the 6-year period of limitation be imposed in conformity with title 35, United States Code, section 286, as to suits for patent infringement and the same period is imposed in section 2401a of title 28, United States Code, with regard to civil action against the Government.

Representative HOLIFIELD. Your additional language in paragraph (d) for section 157, in effect sets the 6 years as the time limitation. That is the only real change.

Mr. OLSON. That is correct.

Representative HOLIFIELD. Is failure to report under 151(c) a bar to an award under 157?

Mr. OLSON. I would say so; yes. As a matter of fact, Mr. Anderson tells me the act expressly so provides.

Representative HOLIFIELD. How many awards have been granted under 157?

Mr. ROLAND ANDERSON. The Board has granted one award. Three of the principal cases that were before the Commission have been settled and the Board issued orders dismissing the proceedings on the basis of the settlement.

Representative HOLIFIELD. Will you furnish for the record, if you do not have the information?

Mr. ROLAND ANDERSON. I think we have already furnished the complete history in the December 4 statement as to the Patent Compensation Board proceedings and the status of dockets before it was given to this committee.

Representative HOLIFIELD. And the awards and to whom they were awarded?

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. I think it might be well to put those in the record at this point, I would say to the staff, so as to make the record complete, or we can refer to it in the hearings. In fact, I think it would be better to put it into the record at this point for the benefit of Members of Congress when we are considering this legislation on the floor.

(The information referred to follows:)

Question 8. List of awards granted under section 157.

Answer 8. There have been no awards granted by the Patent Compensation Board under the first sentence of section 157 of the Atomic Energy Act of 1954. However, since the passage of the 1954 Atomic Energy Act two dockets have been settled by AEC and orders dismissing the dockets entered by the Patent Compensation Board.

Docket No. 7 of Messrs. Glenn T. Seaborg, John W. Kennedy, Emilio Segre, and Arthur C. Wahl was settled by AEC upon payment of $400,000 to the said four inventors. The Patent Compensation Board entered an order dismissing the docket on June 3, 1955, upon the filed settlement stipulation.

Docket No. 20 of Consolidated Electrodynamics Corp. was dismissed by the Board, upon stipulation of the parties that provided for payment by AEC of $40,000 to applicant. The Patent Compensation Board dismissed docket No. 20 on June 30, 1958, with prejudice pursuant to the stipulation filed by the parties.

Under section 11 of the Atomic Energy Act of 1946, the Patent Compensation Board granted an award on November 20, 1951, of $7,500 to Cyril E. McClellan in docket No. 4.

The other dockets filed under the 1946 Atomic Energy Act were settled and the Patent Compensation Board entered an order dismissing the proceedings upon stipulation of the parties prior to passage of the 1954 act.

Dockets No. 2 and No. 11 of G. M. Giannini & Co. were settled by the AEC upon payment of $300,000 to G. M. Giannini & Co. and the inventors, Messrs. Enrico Fermi, Edoardo Amaldi, Oscar d'Agostino, Bruno Pontecorvo, Franco Rasetti, Giulio Cesare Trabacchi, and Emilio Segre. The Board entered an order dismissing the two dockets on June 29, 1953, upon the filed settlement stipulation.

The Commission, pursuant to the second sentence of section 157 of the 1954 Atomic Energy Act, established an award on November 10, 1954. It later became known as the Enrico Fermi award.

The first award, in the sum of $25,000, was given to Dr. Enrico Fermi on November 16, 1954.

There have been three recipients of the award in the sum of $50,000 since it became known as the Enrico Fermi award. The first such award was given to Dr. John von Neumann on April 26, 1956, the second to Dr. Ernest O. Lawrence on December 2, 1957, and the third is being presented to Dr. Eugene P. Wigner on December 2, 1958.

Representative HOLIFIELD. We will go to section 158.

Mr. ROLAND ANDERSON. That was the answer to question 8 and appears in the present committee print at page 110.

Section 158

Mr. OLSON. The final legislative proposal is that pertaining to the repeal of section 158. This section was deemed superfluous since the courts, without this express statutory authority, frequently enter antitrust decrees, requiring that patents be licensed.

This sectional analysis of the proposed amendments concludes the presentation of the patent policies and practices of the Commission. If the committee has any questions with respect to the patent policies and practices of the Commission or the legislative proposals that have been discussed, we would be pleased, to the best of our ability, to furnish any additional information desired by the Joint Committee.

Representative HOLIFIELD. Your recommendation is based on the grounds of superfluity rather than the opposition to the provisions contained therein?

Mr. OLSON. That is right.

Representative HOLIFIELD. We were aware of that when we put this section in the bill and we wanted to reiterate it from the standpoint of emphasis, and from the standpoint of application to the atomic energy procedures of the Commission.

Mr. OLSON. Mr. Chairman, our Patent Advisory Board has recommended this. They say it is superfluous. I feel it is superfluous. There is no intent to make any change in practice. We simply felt it was unnecessary.

Representative HOLIFIELD. The very fact that it has been in the act and that you would remove it, in my opinion, would be indicative of the Congressional action on this part and it might establish some ground of contention which does not exist.

Mr. ROLAND ANDERSON. I believe this is correct. There is one difference. In most antitrust decrees the Justice Department and the courts have required that patents be licensed free. This provision does provide that reasonable royalty must be paid. This is one difference over what could be said to be a general practice in the antitrust field.

Representative HOLIFIELD. I think this is a very valid point, and we might very well consider language to make it conform to the actions of the court.

Mr. RAMEY. Along that line, you could put language saying with or without a fee being charged, so it would be discretionary rather than required that compensation be paid.

Mr. ROLAND ANDERSON. This could very well be the case.

Representative HOLIFIELD. Mr. Ramey has a general concluding question.

Mr. RAMEY. We addressed a letter to the Commission dated April 7 asking certain supplementary questions on your procedure on compulsory licensing and how you protect the Government's interest with respect to AEC contractors who have extensive private atomic activities and with former consultants that we would like to put into the record at this stage. There is one question with respect to how you handle and protect the Government's interest as between a large Government contractor who is also engaging in private atomic activities. In your reply, dated April 15, you state that you have established certain preventative measures. You say that the preven-

tative measures are based chiefly on and arise out of a contract and the relations with the contractor and include such measures as:

1. The segregation of Government work from private work as much as possible, both as respects the physical facilities for the conduct of the activity as well as using separated staffs.

As you know, Mr. Holifield has requested the Commission to look into the General Dynamics activities who have had both a private activity in the high temperature gas cooled project, in which they have made a proposal for Government assistance, but not underway yet, and they also have a contract with the Commission for the development of a gas-cooled reactor for maritime application. It is my understanding that the staffs on these activities are not segregated. The person who is in charge of both projects or there is one person in charge of essentially both projects, and some of the people on the Government project are also participating on the private project. How is it possible to protect your patent and your know-how situation in such a situation?

Mr. ROLAND ANDERSON. We recognized this and we said insofar as we possibly can, we attempt to have this criteria. I think the other procedures set forth in that letter indicate in all instances, whether it be commingling or separate facilities or separate activities, the other procedures that we go through and adopt in order to protect the Government's interest. I certainly think today to the extent possible and feasible, we attempt to protect the Government's interest insofar as the Commission is able to with respect to its contractors and their facilities.

Mr. RAMEY. I would hope in the report that the Commission prepares in response to Mr. Holifield's inquiry that this might be given rather particular attention, as to how this matter will be handled. The Inspection Division is doing this investigation and has had it underway for more than a month.

Representative HOLIFIELD. Without objection, the questions which the staff has directed to General Luedecke will be included in the record at this point, and such answers as may be received in addition from the Commission.

(The information referred to follows:)

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C., April 7, 1959.

Mr. A. R. LUEDECKE,
General Manager, U.S. Atomic Energy Commission,
Washington, D.C.

DEAR MR. LUEDECKE: In connection with the forthcoming hearings by the Joint Committee on Atomic Energy patent policies and procedures, it is requested that the AEC prepare and forward to the Joint Committee statements on the following subjects:

1. The supplementary statement outlining in detail procedures and practices which the Commission has established to determine whether compulsory licensing of a discovery or patent is desirable or necessary.

2. A statement as to how the Commission protects the Government's patent interests with respect to AEC contractors who also have extensive private atomic activities.

3. A statement as to how the Commission protects the Government's interests with respect to patent applications by former employees and consultants of the Commission and its contractors.

It is requested that the above statements be forwarded to the Joint Committee on or before April 18, 1959. The cooperation of the Commission in preparing for the patent hearings is greatly appreciated.

Sincerely yours,

JAMES T. RAMEY,
Executive Director.

STATEMENTS REQUESTED BY MR. JAMES T. RAMEY, EXECUTIVE DIRECTOR OF THE JOINT COMMITTEE ON ATOMIC ENERGY, IN LETTER TO MR. A. R. LUEDECKE, GENERAL COUNSEL, AEC, ON APRIL 7, 1959

APRIL 15, 1959.

Question I. A supplementary statement outlining in detail procedures and practices which the Commission has established to determine whether compulsory licensing of a discovery or patent is desirable or necessary.

The Commission rules for declaring a patent affected with the public interest pursuant to section 153a are set forth in part 2, subpart C of title 10 C.F.R. The Commission, as stated at various times, has not had occasion to invoke the provisions of section 153a. That it has not been employed is due in part to the fact that most of the basic inventions at present maturing into patents are owned by the Commission and in part to the comparatively recent entrance of private parties into the basic atomic energy program.

The review of patent applications in the atomic energy field under section 152, as well as the review of the weekly U.S. Patent Office official Gazette of issued patents affords the Commission information on patents of possible potential significance. If, upon such review, an application or patent appears of significance, the same is referred to the technical staff of the Commission for evaluation. If the AEC technical staff review indicates potential significance the same is further examined by field operating staffs, if the AEC field operating staffs have not previously examined the subject matter. Thus far no reviewed patent has appeared to be of such primary importance to warrant initiation of any action by the Commission under section 153a.

Question II. A statement as to how the Commission protects the Government's patent interests with respect to AEC contractors who also have extensive private atomic activities.

The AEC protects the Government's interest in inventions and discoveries with respect to contractors who have extensive private atomic activities (as well as with contractors who have only contract activities) primarily in two ways. One might be termed (A) preventative and the other (B) remedial.

A. The preventative measures are based chiefly on, and arise out of, the contract and the relations with the contractor, and include such measures as:

1. The segregation of Government work from private work as much as possible, both as respects the physical facilities for conduct of the activities, as well as using separated staffs.

2. The prompt reporting by contractors of inventions or discoveries made under contract. The contract laboratories and operating contractors as well as the larger industrial contractors have assigned personnel who are responsible to promptly report inventions to the AEC patent staff, as set forth in the December 4, 1958, answer to question 10 to Mr. Durham's letter of November 7, 1958.

3. The maintenance of accurate work and notebooks are kept by personnel engaged in Government activities that are likely to result in inventions. These books are, pursuant to contract provisions, the property of the Government. Work described in these note and workbooks may be reviewed by the patent staffs. If work of patentable significance is described and the same has not been the subject of an invention report by the contractor, attention is invited thereto.

4. The submission of periodic (monthly or quarterly) technical and progress reports of contract work, as well as the rendering by all of final technical and progress reports. These reports are systematically reviewed by AEC patent personnel for possible inventive subject matter. If an invention has not been received from the contractor on an item of patentable interest a request is made to the contractor to submit a report.

5. The AEC patent staffs keeping in contact with AEC technical staffs who are reviewing the contractor's program, so as to ascertain from such personnel whether there are projects or items of particular interest. Furthermore, AEC patent representatives are in contact with contractor technical personnel and patent personnel to keep abreast of important activities. They also attend many

of the general technical conferences and meetings to gather information on recent developments and projects.

6. Contractors and subcontractors are required, as part of the contract termination procedure, to have qualified representatives furnish duly signed final patent clearance certifications (where the contracts are for extended periods, interim certifications are requested) in which the contractor—

(*a*) Identifies notebooks kept by employees;

(*b*) Lists technical reports rendered;

(*c*) Certifies to examination of the same as well as availability of such to the AEC patent staff;

(*d*) Certifies that there are no inventions or discoveries other than those set forth in the certification.

B. The remedial measures are the statutory requirements with respect to atomic energy inventions as:

1. Section 151c.: The inventor must report or file a patent application on an atomic energy invention within 90 days after certain events. Under 151d. the Commissioner of Patents must provide AEC access to atomic energy patent applications. This affords the AEC staff an opportunity to check records and make inquiries of contractors as to any such reported inventions or patent applications.

2. Section 152 provides a procedure, where a patent application is in allowable condition, for AEC review as to whether a particular invention was made or conceived in the course of or under a contractual relationship. Each application referred to AEC patent staff by Patent Office under section 152 is examined, a check is made as to the inventor's association with the AEC or a contractor, the field of invention is compared with work under a contract and other relevant aspects are examined. A directive to have the patent issue to the Commission is filed when the review shows a contractual relationship and negotiations to acquire Government rights are not successful. If any statement filed by an applicant contains any false material statements, the Commission, even after the patent has been issued, may request the Commissioner of Patents to transfer title to the Government.

Question III. A statement as to how the Commission protects the Government's interests with respect to patent applications by former employees and consultants of the Commission and its contractors.

The Commission, to protect the Government's interest in inventions, secures a patent employment agreement from its own employees and consultants. Contractors, pursuant to the patent provisions of contracts, are required to secure similar agreements from employees and consultants. These agreements provide for the prompt reporting of inventions by employees and consultants. The keeping of notebooks and the rendering of technical reports covering the work, as noted in answer to question 2, by the contractors also reflect the work of the individual worker and thereby disclose the nature and scope and character of the individual's contractual activities. The principal industrial contractors and the National Laboratories have inventions and discovery personnel termination procedures.

The contractor's patent staffs as well as the AEC patent staffs review the technical reports and other contract data for inventions. Any inventions not reported are the subject of inquiry. In addition, as with contractors, the statutory requirements of section 151 and section 152 are availed of to review the patent applications of employees and consultants in the field of atomic energy. The possibilities of forfeiture of the title to a patent, as prescribed by the last paragraph of section 152, is deemed a very strong deterrent in preventing evasion of contractual obligations.

Mr. OLSON. What is the date of the letter?

Representative HOLIFIELD. This is April 7. We will furnish you a copy of it. I assume you have not received this.

Mr. ROLAND ANDERSON. As far as I know, I have not seen the letter.

Mr. OLSON. I have not seen it.

Representative HOLIFIELD. This is the letter and the April 15 reply on your procedures. This outlines your procedures on compulsory licensing and how you protect the Government. I think you are inquiring on the inquiry to General Dynamics.

Mr. OLSON. Yes. It is my understanding that is what you addressed your question to.

Mr. RAMEY. Yes, that is right.

Representative HOLIFIELD. You have seen this letter from General Luedecke.

Mr. ROLAND ANDERSON. This was prepared by us. Mr. Ramey's question was with reference to a General Dynamics letter that the committee sent to the Commission. This letter I have not seen.

Mr. OLSON. What was the date again, Mr. Ramey?

Mr. RAMEY. I don't have the date involved. We will furnish you the date. The inquiry is being carried on by the Inspection Division.

Representative HOLIFIELD. When the answers are received, they will be put in at this point in the record in order that the continuity may be maintained. Thank you very much for your testimony.

(The material referred to follows:)

FEBRUARY 10, 1959.

Mr. A. R. LUEDECKE,
General Manager, Atomic Energy Commission,
Washington, D.C.

DEAR MR. LUEDECKE: As you know, Senator Anderson, James T. Ramey, and I visited Los Alamos on November 19, 1958. We received a briefing on the Rover program at which time we learned that representatives of General Dynamics Corp. had shortly before visited Los Alamos to obtain information with respect to their civilian program. As a result of some uncertainty as to the basis of their visit an informal inquiry was made of AEC by the Joint Committee executive director as to the circumstances of that visit.

In your response to the executive director, by letter dated December 29, 1958, you advised that the General Dynamics representatives "recently visited Los Alamos as contractors to the Department of Defense and the AEC." It is my understanding that the visit was made on November 13–14, 1958.

In an executive session hearing before the Joint Committee of February 7, 1959, Dr. Frederic de Hoffman and his associates denied that the General Dynamics representatives, who visited Los Alamos in November 1958, had done so as Government contractors. They maintained that the visit was pursuant to the access permit program, and hence the information obtained was such that is available to any access permittee.

On February 9, 1959, it was ascertained from the Commission by a member of the Joint Committee staff that the visit of November 13–14, 1958, by General Dynamics was under authority of that company's contract AT(04–3)–187, the maritime gas-cooled project, and not pursuant to the access permit program. It was also ascertained that 12 representatives of the General Dynamics Corp. apparently have access to all Rover, Pluto, and ANP classified technology.

In view of the discrepancy between the statements of the General Dynamics representatives at the February 7, 1959, Joint Committee meeting and the records of the Commission, I request that the Inspection Division of the AEC be instructed to investigate this matter and to make a report of its findings to the Subcommittee on Legislation. In conducting its investigation, I believe the Inspection Division should also determine the following:

1. What information did the General Dynamics representatives have access to in their visit of November 13–14, 1958, to Los Alamos under their clearance as Government contractor-personnel which they would not have had under the access permit program?

2. What access does the General Dynamics Corp. and its associates in the high temperature gas cooled civilian project (Bechtal and HTDRA) have to information classified or otherwise in the Rover, Pluto, and ANP projects? In this connection, I desire to know of any visits by their representatives to AEC and AEC-contractor installations to obtain information concerning these projects from the time these projects were instituted. I would wish to know the identity of their representatives who made these visits and whether clearance for the visits were under the access permit program or otherwise?

3. (*a*) What procedures does General Dynamics have to assure that classified information authorized by the Aircraft Reactors Branch to the 12 designated representatives is not being used in its civilian projects? In this regard I would wish to know if any of the 12 General Dynamics representatives to whom classified aircraft reactor information is being designated are also involved in work on the General Dynamics gas cooled reactor proposal?

(*b*) What procedures does AEC have to assure that classified information made available to private companies under authority of and solely for U.S. Government projects is not used by the companies to their advantage in other projects in which they have interest? How does the Commission implement these procedures with respect to General Dynamics?

I would appreciate it if the Inspection Division could look into this matter and make its detailed report as soon as possible.

Sincerely yours,

CHET HOLIFIELD,
Chairman, Subcommittee on Legislation.

GENERAL DYNAMICS CORP.,
New York, N.Y., February 11, 1959.

Hon. CLINTON P. ANDERSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR ANDERSON: At the Joint Committee on Atomic Energy hearing on February 7 concerning the Philadelphia Electric-HTRDA proposal, the question arose about a recent visit made by General Dynamics personnel to Los Alamos. I have had an opportunity to examine the matter further and find that Dr. Pigford and I were indeed not in possession of the full facts in this matter when making our reply to your questions. You will recall that I stated to you that I would check into the facts of this matter and report these to you. Upon so checking I find the following:

Although the management of General Atomic Division, including myself, were under the impression that the visit of Dr. Gurinsky and Dr. Simnad and associates was being made under the access permit, the visitor from 277 in fact stated the visit was being made under the MGCR. I shall elaborate more fully below how this error appears to have arisen.

Your committee raised the question whether information obtained at Los Alamos contributed to the formation of the November 21 proposal. I believe you will be reassured to know that this was not the case. As you know, by then this reactor had been under technical discussion for more than a year. In August 1958 the General Dynamics Corp.-Bechtel Corp. report was issued describing the 40 electrical megawatt system. The visit of the General Dynamics personnel to Los Alamos took place on November 13 and 14, 1958. The proposal to the Commission by Philadelphia Electric had, of course, been essentially prepared in Philadelphia by that time. The people involved in the Los Alamos visit returned to General Atomic in San Diego on the weekend of the 15th of November. By this time the proposal to the Commission was being printed in Philadelphia, inasmuch as it was being taken up with the Atomic Energy Commission on Wednesday, November 19, in Washington, D.C., and was formally submitted on November 21, 1958.

I have checked with Dr. Gurinsky and Dr. Simnad regarding the use of the information discussed at Los Alamos since that time. They assure me that the information gained as a result of the visit has not been used in the HTGR design or development to date. If the receipt of any such information results in an invention in this project, the disposition of title to such invention would be determined by the Government under the proposed patent clause which we are negotiating with the AEC.

Let me now return to reporting to you in detail what I have been able to ascertain about the circumstances surrounding the visit.

In October, General Atomic scientists made arrangements to visit Los Alamos to discuss high-temperature properties of graphite and the properties of uranium, zirconium, titanium, and thorium carbides. The initiation of this visit is recorded in an exchange of correspondence between Dr. David Gurinsky, of General Atomic, and Dr. R. B. Baker, of LASL, dated October 27 and 29, respectively, copies of which are attached. You will note that the letter from Gurinsky expressly indicates that General Atomic was interested in exchanging infor-

mation on two different high temperature gas-cooled reactors; one supported by the AEC and the Maritime Commission and a different one sponsored by General Atomic as a commercial development.

Following the exchange of this correspondence, Dr. Pigford, assistant laboratory director, instructed the General Atomic employees involved in this visit that the visit was not to take place under the MGCR contract as alluded to in Dr. Gurinsky's letter, but was to be made strictly within General Atomic's access permit.

Following the hearing, we checked the visit record at General Atomic and found that the visit notification had been made on visit form No. 277 and referred to the MGCR contract. Dr. Gurinsky, who led the group which was to visit, assured me that shortly before the actual visit was to be made they were definitely under the impression their group was to go under the access permit auspices only and, therefore, feel that form No. 277 was prepared in error. They state further that they were unaware at the time of their visit that form No. 277 actually referred to the MGCR and believed it referred to the access permit clearance, since they were unaware of the error which allowed the wrong visit form to go forward by the General Atomic security office. The General Atomic visit file reflected copies of the Gurinsky-Baker letters referred to above which apparently formed the basis for the use of the improper form.

Our records reflect that the visit to Los Alamos took place on November 13 and 14 by Dr. David H. Gurinsky, Dr. Massoud Simnad, Mr. Walter V. Goeddel, and Mr. Dale Johnson.

Our check with the people who made the visit and their thoughts pertaining to the visit indicated the following: LASL personnel held technical discussions with General Atomic visitors and provided the technical references to the reports where the information discussed verbally was contained. The reports referred to were:

(*a*) AEC D–4260: Preliminary investigation into preparation of extruded graphite (declassified March 18, 1958).

(*b*) LA–2198: Turret, high temperature gas cycle reactor proposal (published January 23, 1958).

(*c*) A/Conf. 15/P/613: Geneva paper-diffusion of fission products at high temperatures from refractory matrices (G. A. Cowan and C. J. Orth).

(*d*) Paper by W. V. Green et al., to be presented at AIME meeting on February 15, 1959. Abstract submission deadline (to the institute) was November 1, 1958.

The General Atomic personnel all have Q clearances. They were not, however, at the time of the visit, authorized access to C–84 or C–86 information.

May I also say that we are well aware of the contractual obligation and as well as other security prohibitions preventing transfer of any information obtained under the MGCR contract and, in particular, under categories C–84 and C–86 being made available to any commercial activity at General Atomic. My instructions have consistently been to meticulously live up to these obligations.

I sincerely regret that I was not aware of the actual circumstances surrounding the Los Alamos visit when I testified before your committee. I believe that this letter sums up the facts as we understand them and would appreciate having Dr. Pigford's and my testimony supplemented accordingly.

Yours sincerely,

FREDERIC DE HOFFMANN, *Vice President.*

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 15, 1959.

HON. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation, Joint Committee on Atomic Energy, Congress of the United States.

DEAR MR. HOLIFIELD: A report to the General Manager by the Division of Inspection of the Atomic Energy Commission, on the subject matter contained in your letter to me of February 10, 1959, is attached.

The report is an internal document of the Commission and its substance would normally be transmitted to you by separate report. However, due to the necessity for the specific detail contained in the report to the understanding of the problem, the full report is transmitted in this instance.

In reviewing the report, it is noted that the particular visit covered by the report was not included in the listing of visits contained in exhibit D. The listings in this exhibit are in addition to the visit which is the subject of the report.

Sincerely yours,

A. R. LUEDECKE, *General Manager.*

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C., May 25, 1959.

Gen. A. R. LUEDECKE,
General Manager, U.S. Atomic Energy Commission,
Washington, D.C.

DEAR GENERAL LUDEDECKE: I am in receipt of the report to the General Manager, AEC from the Division of Inspection which you forwarded to me by letter dated May 15, 1959.

When the Commission has completed its review of the report, I would appreciate it if you will inform me as to the Commission's comments and any action to be taken. I would be particularly interested as to views the Commission may have relative to correcting possible deficiencies in existing administrative controls to assure against commingling of restricted data available to a company through Government contract with commercial work of that company.

Thank you for your assistance.

Sincerely yours,

CHET HOLIFIELD,
Chairman, Subcommittee on Legislation.

Mr. HOLIFIELD. At this point we are pleased to have before us Mr. Jo Baily Brown, a member of the AEC Patent Advisory Panel. Last week I instructed the committee staff to send telegrams of invitation to Mr. Ooms, Mr. Dienner, and Mr. Brown, the members of the three-man panel, inviting them to attend these hearings and give us the benefit of their comments. Mr. Ooms and Mr. Dienner were unable to attend, but we are pleased to have Mr. Brown here this morning.

The view of all three members of the Patent Advisory Panel have been reprinted in Chapter IV of volume I of the Joint Committee Print on "Selected Materials on Atomic Energy Patents" from pages 25 to 39. In particular, Mr. Brown's memorandum as contained at pages 36–39. Because of limitation of time, I will not ask you to read this memorandum which has already been made available to us, Mr. Brown, but I do have some questions, and I would appreciate receiving your answers. You had not planned to give that statement again, had you?

STATEMENT OF JO BAILY BROWN, MEMBER, ATOMIC ENERGY COMMISSION, PATENT ADVISORY PANEL

Mr. BROWN. No, I see no purpose in reading it to you.

Representative HOLIFIELD. Would you like to make any comments?

Mr. BROWN. I would like to make a few general statements and then I would be glad to answer any specific questions.

In the first place, I am not appearing here officially as a representative of the AEC or of the Patent Advisory Panel. When I received your telegram I called Mr. Anderson to ask what it was about. He said he knew nothing about any invitation to me or to the panel, and

that if I appeared, it must be understood it was voluntary and at my own risk, so to speak.

Representative HOLIFIELD. We understand that, sir. We invited you because of the fact that you have been considered to be qualified to sit on the Advisory Panel and offer your advice to the AEC, and we thought that your testimony to this committee would also be helpful Whether we happen to agree with you or not, that is not important.

Mr. BROWN. I think I would like to make a statement to the committee that goes rather deeply to the whole matter of this statute that we are talking about, rather than to detail. I would like to say that I make this in due modesty, because it is my personal opinion, but it is based upon careful thought and study.

By way of qualification of my opinion—admittedly purely opinion—I may say that for over 45 years I have practiced patent law exclusively. In the first part of it I had Patent Office practice in prosecuting applications and interferences. In the latter part of my professional life, which is now nearly finished, being 72 years old, my practice has been in litigation for and against some of the very big corporations of the country, and also some of the very small ones, and for many individuals. So I think I have kind of a bird's-eye view of the operation and effect of the patent system.

I believe in it. I have done a lot of work on patent law revision in the patent section of the American Bar Association and others.

With that preface, I want to say that it seems to me the AEC or perhaps Congress—because it has more or less put the AEC in a straitjacket in many respects—are misunderstanding the effect of patents taken out by AEC and patents owned by AEC. I think that a patent owned by the AEC is a dead duck. I don't see that it means anything per se to anybody, except possibly as a matter of trading between governments. As I understand what has been said by the representatives of the AEC, and by what seems to be the understanding of the committee here, they have a feeling that these patents are necessary to protect the Government and the atomic energy industry generally from patent monopoly. As a matter of fact, since the Government gives free licenses under all its American patents, and since the major part of industry is required to assign all of the inventions which the AEC wants to take, to AEC, it really means that the patent system has little effect on industry in the United States, so far as normal functioning of a patent goes. Of course, it is trite to say that a patent is merely a right to exclude others in the United States from using in any way the inventions covered by the patent.

When I went on the Advisory Panel of the Patent Section of AEC, I knew substantially nothing about this act, and very little about the art involved. It was too abstruse for me to take up. We represented no clients in any operation under it. I have no clients now, I may say, that are directly interested in any part of the act that I am going to discuss. When I got into this thing and began to study it, and particularly after the meeting of April 15 of last year before the Patent Advisory Panel and AEC Counsel—which I understood was called to let industry express its views as to the working out of the patent sections of the Atomic Energy Act—I was greatly impressed by the men that appeared, their ability, and the careful way in which they stated their positions. I was impressed with the almost unanimity of

the industry representatives in disliking a number of features of the act and the policy of AEC in carrying out the act. So I have made quite a study, as far as my thought is concerned, along this line.

It seems to me, frankly, sir, that the patent chapter of the Atomic Energy Act, rather than advancing the public welfare and protecting the United States, and preventing something that we all would object to, is failing in its major objective. I understand that the Commission's point of view and the act itself is to foster development of the atomic energy field for the benefit, primarily of the U.S. citizens, and the industry as a whole.

It seems to me that if you take away from the companies that have put their personnel and their valuable know-how resources into carrying on contracts for the Government the incentive of obtaining a preferential position with respect to competitors and others in the patent field, you largely discourage what you are trying to bring about. That is, normal progress in the development of atomic energy by industry, as distinguished from Government subsidy and Government ownership.

I realize, and I certainly sympathize with the thought that the Government should not spend many, many millions of dollars and then let somebody individually get the full benefit of it. But those active in this industry, as far as I know, feel that they would be better off if they had a chance to earn certain competitive advantage over each other. That is the way normal industry functions. A corporation or a person invents a better way of doing something, and as a result he has a sales or use advantage. That is what the patent system has been for and that is the way it has worked with overall satisfaction to the public.

Mr. TOLL. May I ask you a question there?

Mr. BROWN. Yes.

Mr. TOLL. Is there anything in the present law to prevent industry from privately sponsoring an invention and getting that advantage?

Mr. BROWN. I assume you mean at their own expense?

Mr. TOLL. Yes.

Mr. BROWN. I think a general answer to that is "No."

Mr. TOLL. Could it be argued that the present laws encourage private development? If someone thinks a patent is important, he will develop it at his own expense. That is private enterprise at its best, it seems to me.

Mr. BROWN. That is private enterprise, but you are confronted with the Atomic Energy Act which practically gives a monopoly on the utilization of atomic energy to AEC, under the conditions it imposes on industry. You can't buy atomic fuel, for example, or other things to be utilized except under license from the AEC. As I understand, AEC imposes conditions upon how it is to be used and what is to be done with it. Also, you have this compulsory license clause in the act, so that if you do develop something of controlling importance privately and get a patent on it, AEC can require it to be made available to all the competitors.

Representative HOLIFIELD. That is true, but on a reasonable royalty basis. Unless you take the position that a person who obtains a patent has a right to exclude everyone from the use of that patent, then this distribution of the benefits of the patent is not denied to

the public under this arrangement. I might say in defense of the act itself that the Congress considered that where many millions of dollars of the public moneys were being spent in research and development, that the benefits of that expenditure should not accrue to one or two or three or four contractors who had, because of the national defense, been permitted to operate under contract in the field and acquire prior knowledge of techniques and hardware and so forth. It was to protect all of industry against allowing these few people who had worked for several years under contract with the AEC in the national defense effort from stepping out and establishing patent equity in the field at the disadvantage of all the rest of American industry. We found ourselves in a peculiar position here. We felt that public moneys had been spent for research and development. As is the case of a private individual spending his own money, he establishes an equity. This is the whole basis of your patent law. If a private individual spends his own money and his own brain power, and establishes a position with respect to a process or hardware, he is entitled to reward for his expenditure and initiative. Likewise, we felt that if the Government spent the public money, the Government was entitled to that same position of equity, that it could acquire these patents and then make available to society the benefits. Make available first to all of industry the utilization of all these patents which would be beneficial to all industry without discrimination, because tax money comes from all industry and all the people in the United States, and therefore society would get the benefit of these advanced techniques and advanced hardware devices as quickly as possible. The Government would be thereby acting in accord with the best interests of all the people.

We have provided under the act that if a corporation spends its own money and develops a patent position that they can obtain a patent, and they can utilize that patent. However, if the patent is of primary importance—if it would strangle all of indusrty—we know that patent could not have been obtained if it had not been done in the basic research and development, then it must make that patent available on a reasonable basis to other manufacturers.

As the testimony has shown, it has not been necessary to utilize this. Certainly there has been no dearth of applications for patents either by private industry or by Government in this field. There have been a great many hundreds as the charts in our prepared material show. There has been a great advance in this industry. So certainly the industry has not been held back.

In the opinion of the committee and the Congress, we feel that they were working in an enormous situation and we had to protect the equities which had been established by Government expenditures. Now, as Government expenditures in research and development go down, and private industry expenditures go up, or if we get this industry on a plane where more participants are involved in it than the few who had the advantage of the initial contracts with the Atomic Energy Commission, the Congress undoubtedly will probably repeal this part and put it on the basis of the rest of private industry. I think in all fairness you must recognize that the Congress found itself in a unique position here. You spoke of the ownership. I might comment on that.

It has been felt necessary in the national interest to take this very beneficial material and very dangerous material and to control it so closely that the inventory of it would be known to the Government for the welfare of the Nation. It is obvious that you cannot allow powerful material like this to go into the hands of people as you do steel and rubber and other industrial materials because of its very toxic effect, first, and secondly, its powerful effect when used as a weapon. So in the interests of the Nation it has been found necessary up to this time to have Government ownership and Government accountability of every gram of this material, if it is possible. So we are in a unique position. It is not like dealing with sand or cement or iron or rubber. What we are trying to do in the Congress is to protect all the American people. We feel that this is more important than to give a single individual or a single corporation some peculiar monetary advantage. As soon as this peculiar situation is dissolved along with others I am sure I would welcome a chance to repeal this type of legislation.

Mr. BROWN. I feel, and a good deal of industry feels, that the time has come for the Atomic Energy Act to be materially modified. As long as it stays as it is, I don't see how industry, and particularly big industry, where it is taking contracts that involve millions of dollars, is going to spend its own money.

Representative HOLIFIELD. Let me call your attention to one case that is before this committee right now, to show you how wrong you may be. The General Dynamics people have testified before this committee that they now have 17 patents pending on the high temperature gas cooled reactor concept, and they have 3 others pending, I think. This is a company that plans to put some $24.5 million—with their associates—into a reactor development, along with $14.5 million of research and development. They confess their inability to do the job by themselves, although they are willing to place $24.5 million on the line. In placing that on the line, they have nevertheless found that it is possible for them to apply for some 20 patents altogether in this one particular field. If they come to the Government and ask for $14.5 million of tax money—moneys which you and I have paid in our income taxes—should that $14.5 million be used to perfect a group of patents for this one particular company, or should that $14.5 million retain for the people the equity which the furnishing of the money demands? This is the question that faces the committee. We are spending public money. We are not spending private money. When we spend public money we have to see that public money is expended to the best benefit of all the people. So this is a unique position. It is not comparable to the routine of business.

Mr. BROWN. I appreciate the difficulty of the whole situation.

Representative HOLIFIELD. Let me ask you a specific question. Would you advise us to give this $14.5 million worth of tax money on the high temperature gas reactor and turn over to the General Dynamics Co. the right to patent everything that is developed with that money?

Mr. BROWN. Subject to license to the Government for all Government uses, yes.

Representative HOLIFIELD. In the first place, the Government would have a very limited use of it. In the second place, to retain in the hands of the Government the right to use it for government use would defraud the people. The Government is not a mythical entity. The people are the Government. It would defraud all of these other industries which have sent tax moneys into the $14.5 million fund from getting any benefit out of their tax money.

Your position, as I understandt it, is that we should turn over to General Dynamics all of the patents which might accrue from the $14.5 million research and development fund they request—of Government money—and allow them to patent anything that is patentable in that field of discovery as a result of the expenditure of that $14.5 million. Is that your position?

Mr. BROWN. Yes. I think it would be to the advantage of the country and a saving of money to the country in the end, considering your question as a matter of principle, and not as a specific instance.

Representative HOLIFIELD. We are dealing with specific instances in the expenditure of money. We have to apply the specific answer. Your answer is yes, we should turn over to General Dynamics, and if we do the same thing with General Electric, we turn it over to them and we refuse to let Westinghouse and Monsanto and Babcock & Wilcox have any access to those patent fields. We give it to the individual contractor, whether it happens to be contracting with the Government and receive the beneficience of the Government grant of funds. That is your position?

Mr. BROWN. I don't like to contend with the chairman.

Representative HOLIFIELD. This is not anything personal.

Mr. BROWN. I understand, sir.

Representative HOLIFIELD. I appreciate your views and respect them.

Mr. BROWN. I answered your question by saying yes, that is my position. I would like to say one thing about it. I think a major objective of the development of the use of atomic energy by AEC is for the purpose of getting improvements in it, to advance the art, and to have important inventions made. I believe that object would be obtained better by permitting those who make those invention to get some competitive benefit from them. As I understand it, if they have to turn their inventions over to the AEC to be patented, under the present statute and AEC policy, they get no individual benefit of their inventions, no matter how important they may be.

Representative HOLIFIELD. This is where Government money is being expended. If they expend their own money they have the right to patent.

Mr. BROWN. The Government money is being spent, as I understand it, for the public good. My answer to you is that in my belief the public good would be advanced further and faster if those who are allowed to spend Government money could get some personal advantage of making improvements and inventions in this art. As it is now, as I understand it, there is no advantage to the man or company that is spending some of its money and some of the Government money to make inventions. I don't see any advantage to anyone in making inventions which AEC will patent and which will thereby become practically free to the world to use.

Representative HOLIFIELD. They get many advantages out of these contracts. We have no scarcity of people who come in asking for contracts in which these hundreds of millions of dollars of Government expenditures are involved. They have the advantage of making a profit on the reactor which they intend to build. They have the advantage of acquiring know-how in a new field and art. I can assure you that they are very enthusiastic in accepting these contracts. There is no dearth of applicants for these hundreds of millions of dollars worth of contracts which are let.

Mr. BROWN. Did it ever occur to you that there is a large profit in these contracts and that that may be an impelling motive of the people taking the contracts, in the absence of getting the preferential advantages of their inventions, which industry representatives at the April 15 meeting seemed to think they would prefer to anything else. As long as the Government is willing to spend hundreds of millions of dollars, of course some contractors will be found to take the contracts, if they can make one or two or three or more million dollars of profit on the contract per se. But industry, as I understand it, says that individuals would rather take the chance of having competitors have exclusive rights to something, and each individual have the same chance of getting a preferential advantage under the patent laws, than to have it as it is, with no chance of competitive advantage to anyone.

The theory of the AEC Act seems to be that atomic energy shall be developed at public expense and for the public good with preferential advantage to no one until industry takes over. My personal feeling is that as long as the Government takes their inventions away from the contractors, and as long as it is willing to pay the high price to have industry go into AEC development on the present statutory basis, industry is not going to carry the major load, either financially or by individual research, except in certain limited specific respects.

Representative HOLIFIELD. Your analysis of the situation is not factual. Industry has all of the right to spend its money that it wants to in this field and certain industries, like Commonwealth Edison and General Electric and others, have spent many millions of dollars in the field of their own volition. The Government does not do all the work. The field is wide open for any kind of a project which industry will finance on its own.

Mr. BROWN. But with no patent advantage where Government contract is involved.

Representative HOLIFIELD. But because industry has not seen fit to finance on its own in this field, realizing that it is a nonprofit field, the Government has in the national interest decided to accelerate the development of it by Government expenditures. I assure you that there is a broad field where they can come in. They can acquire their own techniques and know-how. They can obtain patents on them. It is true that they can't exclude everybody else in the field because they can't do this without access to the great body of information which has been bought by the taxpayers, some of which is secret, but which is accessible to them on access permits, which gives them that prior adventage.

Mr. BROWN. May I add just a little bit? I was taught early in practicing law never to argue with the court. I am afraid that I have been led into that with the chairman. I am sorry for that.

Representative HOLIFIELD. You need not apologize. Your opinion is valuable to this committee. I am not arguing with you from the standpoint of personal controversy but trying to explain to you the position of the committee.

Mr. BROWN. I think I understand the position of the committee and the position of the Atomic Energy Commission. It is a difficult one. I think it arose historically on the basis that atomic energy came out of a clear sky, so to speak. I hope I have made my position clear as far as I have gone.

May I say, sir, that the Patent Advisory Panel, at least as far as I am concerned, did not see the amendments to the present act which have been proposed by the AEC. I only saw the printed copy after I came to Washington for this hearing. I have read the amendments, and if I am asked anything I shall be glad to tell you what I think. I frankly think that the AEC report on the patent chapter amendments should have been sent to the Patent Advisory Panel, and that the Panel should have been given the necessary time to consider the proposed amendments.

As Senator Anderson said yesterday, one can spend a half day or a day on one word being changed in a statute. We have not had a chance to do that.

Representative HOLIFIELD. Let the Chair say that if the Panel wishes to study this and present to us in written form any comment upon the amendments that the committee will be glad to receive them.

Mr. BROWN. As far as my limited experience as a member of the Panel is concerned, it only meets or acts on the call or authorization of the General Counsel. Unless the General Counsel—who apparently has not seen fit to do—should ask the Advisory Panel to give its advice on this, I don't think you will get it. I am not quarreling with that because at my age I don't care to spend 2 or 3 days on something if it is not going to mean anything to anybody.

May I say one other thing. In the preliminaries that led up to the reports that were filed by the Panel, there was some correspondence between members of the Panel and Mr. Anderson, and I wrote a couple of memorandums and letters which set forth my position more fully and more clearly than I have been able to do on the spur of the moment here.

I would be glad to have those put in the record, if you care to have them.

Representative HOLIFIELD. The committee will be pleased to receive them.

(The information referred to follows:)

BROWN, CRITCHLOW, FLICK & PECKHAM,
Pittsburgh, Pa., November 14, 1958.

Re AEC Patent Panel.

JOHN A. DIENNER, Esq.,
Chicago, Ill.
CASPER W. OOMS, Esq.,
Chicago, Ill.

GENTLEMEN: Receipt is acknowledged of a copy of Mr. Dienner's letter of October 27. I have also received a copy of Mr. Anderson's comment, dated November 6, on the Dienner letter.

Mr. Ooms' tentative report on the patent sections apparently has not been completed. After that is done will probably be a more appropriate time to comment on his suggestions.

I think the Panel should have another meeting in the not distant future. Perhaps after Mr. Ooms' completed draft is in we can further individually express ourselves on specific points as to which there may be differences of opinion, preliminary to a meeting to agree on a report.

Since it may help the Panel members to crystallize our thoughts before a further meeting, with apologies, I will add to the confusion again by this supplemental letter.

I assume we have no status to discuss the Atomic Energy Act, or any policy of the AEC under it, except the part relating to patents and inventions in the atomic energy field.

Mr. Dienner's letter (second paragraph) assumes that our present task is a review of the Atomic Energy Act. Doubtless he means only insofar as it relates to patents. I am still uncertain as to just what the overall function of the Patent Panel is, how much initiative it is allowed, and even just what is expected of us at the present time. If Mr. Anderson or General Counsel could make the Patent Panel status and duties more clear to me it would help me meet my obligations as a Panel member.

In my essay of October 13, 1958, I was proceeding substantially without chart or compass, due to being a novice on the Panel, and with admittedly very inadequate experience with the many obviously difficult and complicated problems of AEC in this field. I felt presumptuous in suggesting that the Panel, or the AEC, or the Chief of the Patent Section, was not giving sufficient consideration to the points raised at the April 15 industry meeting. I believed industry had made a prima facie case, and that the discussion and action at the September 9 Panel meeting failed to assume the burden imposed on AEC by the industry complaints and suggestions.

I indicated that some of the patent sections of the Atomic Energy Act seems to me unfair to domestic industry. After further study I still feel that the patent chapter is unwise special legislation, and further that the AEC policy of taking out patents in its own name on all important inventions in this field, both in the United States and abroad, and its overall policy and practice concerning patentable inventions, is fundamentally unsound, results in patents of little or no value to the United States, and causes loss of normal benefits of patents to the public and to our industries. The present policy does not seem to me to be required by the statute.

Mr. Dienner's letter goes further tha I dared go. I felt that since he and Mr. Ooms have been on the Patent Panel almost from the beginning of the AEC, are familiar with the problems and arguments pro and con on the patent issues, that they had approved the patent sections of the act, and had approved the AEC patent policies as they have been stated and administered for AEC through Mr. Anderson. My reluctance to criticize the status quo, primarily was due to my lack of personal background information. It was further based on very sincere respect for the wisdom and judgment of Messrs. Dienner, Ooms, and Anderson—all of whom I have known professionally for many years.

My tentative conclusions, arrived at with admitted misgivings, have been materially reinforced by Mr. Dienner's Panel letter of October 27. I am in accord with most of his thinking and statements. On some of the less important points he touches, I would like further information and discussion before agreeing or disagreeing with him.

Since our September meeting I have tried to acquire more comprehensive knowledge of the history and purposes of the present Atomic Energy Act, and particularly of its patent sections.

It seems to me that the overall purpose and effects of the present statute, aside from defensive secrecy, to make the entire atomic energy field, at least in this country, now and hereafter, substantially a Government monopoly—ostensibly pro bono publico. This follows from the fact that all domestic material useful for atomic energy activities of any kind is by statute made property of the United States, and all disposition of such material here and abroad must be licensed by the AEC, and used as directed by it.

From one point of view, the governmental ownership or control of all material and accessories utilizable for exploitation of atomic energy, and the AEC power to control, direct, and administer all commercial activities and developments in the atomic energy field, remove that entire field from any normal functioning, or useful application of the general patent statutes. So viewed, there is no need apparent to me for the patent activity in this field of AEC. Its statutory right to exclude is not dependent on patents, or patent law as generally applied. Its

right to operate in this field regardless of patents not owned by it is protected by the patent statute cited by Mr. Dienner (28 U.S.C. 1498).

In effect we have a special patent law for atomic energy, inconsistent with the general patent statutes. I have no doubt that Congress can make such law. The Constitution gives Congress the power to provide patent protection to inventors, but does not require it to exercise that power. I believe Congress could, if it saw fit, repeal all patent statutes and abolish the patent system in toto, or modify it as it sees fit to do.

Assuming the foregoing generalizations to be in substance correct, there seems to me to be no useful purpose or value in the taking out or ownership of United States or foreign patents by AEC. Mr. Dienner calls such patents sterile. Giving that word its restricted technical meaning, I would change it to a stronger term something analogous to the legal expression nullum bonum. Mr. Dienner seems to agree that AEC or the United States will never enforce such patents. No activity of AEC known to me indicates a contrary intention. In my opinion it cannot enforce them as patents. That seems to me doubly true of patents obtained by AEC under the provisions of section 152, which is based on a statutory fiction. What then is the utility of AEC maintaining a patent soliciting section at very substantial governmental expense, if it produces nothing of value to anyone in the form of patents?

Would it not be simpler—if the present practice is permanent as the fixed intent of Congress and the AEC—to arrive at the same practical result by rewriting the patent chapter of the AE Act in one paragraph to provide that no U.S. patent on inventions relating directly or indirectly to atomic energy material or its utilization shall be granted or enforced insofar as it restricts or could restrict any activity of, or authorized by, the AEC? That may be very nearly the practical effect of the present law and its present administration, so far as domestic patents are concerned. If there are exceptions they are created or permitted by AEC. They are not matters of right under the statute. Industry can hardly depend on privileges that may or may not be granted at a later date.

If, on the other hand, the position be taken that important inventions in this field should be patented, and that such patents will be enforcible in accord with prior existing patent statutes and practice, it seems to me that such inventions and patents thereon must belong to the inventors and their assignees, subject to established law concerning the respective rights of inventors and their employers, the government being duly protected where it has financed the inventor or contractor assignee. Only by ownership of patents, domestic or foreign, by private parties, are they of any real value as patents. Only if patents are of value to the inventors and their assignees is there any substantial incentive to invent and patent. Profit possibility, financial, or as competitive advantage, or otherwise, is generally understood to be the major spur to personal research, study, experiment, voluntary work, risk of lost time and expense, etc., normally precedent to the making of valuable inventions. If such incentive is removed, as it seems to be for individual and contractors under AEC present practice, why should the contractors or their employees desire to make or disclose patentable inventions? Their selfish interests weigh in favor of not disclosing inventions. So doing under present practice throws the inventions open to the world, without reward or advantage to the inventor or his assignee.

Having reached the foregoing tentative preliminary and rebuttable conclusions, it is perhaps superfluous and useless to add that, in my opinion, suspension of the prior established patent law, so far as application of it to atomic energy is concerned, is a major mistake of policy that inevitably will materially reduce and delay the possibility of securing some of the specific objectives stated in the preamble and avowed purposes of the atomic energy statute itself. See U.S.C. 201 B, (a) and (d).

In my opinion, progress in the development of uses, applications, and means for utilizing atomic energy, both for military and domestic uses, and even in the specific field of atomic weapons, will be slower under the present atomic patent law and policy than it would be if the competitive incentive and profit motive under general patent law and practice as applied to normal industrial activities, were allowed to function in the atomic energy field without restrictions other than those now provided by statute in specific cases involving public health, military security, procurement for the United States, etc.

Very truly yours,

Jo. Baily Brown.

NOTES RE ADVISORY REPORT OF PATENT PANEL TO AEC

Because of my short experience as a member of the Patent Panel, and my admitted and obvious superficial knowledge of the complicated subject matter involved, I hesitate to volunteer opinions or suggestions. Probably my understanding is incomplete and incorrect in many respects. However, I understood that the hearing on April 15 before this panel, general counsel, and the chief of the AEC Patent Section, was for the purpose of giving representatives of companies and persons interested in the field of atomic energy a chance to criticize the AE patent statute, and the practices of the AEC with relation to patents. Our panel meeting of September 9 did not seem to me to meet the situation adequately, or sufficiently to consider or report on the April meeting.

I have studied the statements made at the April meeting, the various suggestions then made for changes in the law and changes in the practice of the Commission, and have read a number of articles on the general subject. Those suggestions have been summarized by Mr. Anderson in his memorandum of August 29, 1958. The various papers and statements made at the April meeting are before each of the Patent Panel members.

Perhaps my impressions and overall thought may be of some value, in spite of my lack of the historical information and prior experience possessed by the other panel members and the AEC patent personnel. My thought may be close to that of the hypothetical "man on the street", which, in this case, would be somewhere between the ideas of those who have worked for years under the Atomic Energy Act and for the AEC, on the one hand, and the contractors who have been engaged in the actual work of producing subject matter within the jurisdiction of the AEC, on the other hand.

I was impressed by the statements of speakers representing the atomic energy industry, and others, at the April 15 meeting. Those statements seem to me to have been carefully worked out by people familiar with the subject matter being discussed, who had substantial interest in the commercial future of the atomic energy industry and its ramifications. The speakers appeared to be sincere in their statements and arguments. I was intrigued by the near unanimity of their substantial criticisms on several patent points. I believe the complaints of industry in certain important respects are well-founded, and that the Patent Panel should seriously consider recommending modification of the patent chapter of the existing law, and modification of AEC patent practice within the law, if not amended.

The first Atomic Energy Act was obviously a law passed in the infancy of a new art. The 1954 act stands on the shoulders of the first atomic energy statute, and extends many of its restrictions. Both laws in some respects were apparently justified and based upon premises which no longer exist, or now seem of secondary importance. At the time the atomic energy statutes were in preparation, the Members of Congress and the general public probably had comparatively limited knowledge of the technical features and commercial future of atomic energy. It had been proved to be a devastatingly powerful military weapon by actual destruction by atomic energy bombing of two whole cities and their inhabitants. The United States then seemed to have almost exclusive possession of the secret and means for making such bombs. This country was in 1946 confronted with primary possession of the power to destroy another nation, or the United States, and it seemed essential to rigidly control that power and the subject matter generally.

While commercial use of atomic energy on a large and important scale may have been talked about, and thought possible sometime in the future, it probably did not exist to any material extent in fact during the formulation of the patent portions of the atomic energy statutes. A main object of the acts seems to me to have been to preserve the secret then thought to be largely within the control of the United States, and at least under the present law for this country to explore and extend all possibilities of atomic energy—but primarily under direction and control and at the expense of this country through its AEC.

Such considerations, which seem to me to have motivated Congress in passing the existing special atomic energy patent statute, seem to have become much less important or to have disappeared at this time. The United States appears no longer to have exclusive possession of the secret or tools of atomic energy, for either military or commercial use. Russia apparently has conclusively demonstrated that. England and Russia, and perhaps other countries, are understood to be in possession of sufficient technical information and material to make

operative power reactors, etc., for commercial use, as well as military weapons. England is understood to be offering commercial reactors and other atomic energy products for sale in other countries.

Most of those who appeared at the April meeting seemed to think that there is now or will be in the not too distant future a very large field of commercial use of atomic energy, e.g., for generating electrical and steam power for peaceful uses. Apparently there soon will be keen international competition in the sale, building, and use of atomic reactors, atomic energy materials, etc., throughout the world.

The industries represented at the April meeting, as I understand their statements, feel that under the present atomic energy special patent law, and AEC practice thereunder, they are and will be seriously handicapped in their attempts to compete for foreign business in future worldwide commercial use of atomic energy. It seems to me that their arguments and statements on this point may be well taken, and that under the present practice American industry may be at a distinct and undeserved disadvantage patentwise as compared to foreign competitors in the international atomic energy commercial field. If that is true, then the matter is of real importance, and should not be brushed off lightly as was done at the Patent Panel meeting of September 9.

The present statute seems to me to have been designed to give the AEC a practical monopoly in determining and directing the future of atomic energy in the United States, and its commercial use and exploitation here and abroad by American citizens. This results from the fact that up to now most of the research and development work in atomic energy has been done on authority and under direction of AEC, under research, development, and construction contacts, in large part or wholly at Government expense. Under the law those operating in this way have had to turn inventions made by them over to the AEC, which apparently takes, or can take, title to any patents it wants that are granted in the United States on those inventions. Also, if I understand correctly, the AEC can and does file in its own name the most important applications for patents in the United States and in foreign countries on inventions made by AEC contractors in this field. The result is that AEC, as now operating, seems to own the inventions and may continue to acquire the controlling patents on atomic energy and its ramifications, in this country and abroad.

Apparently the Atomic Energy Act sets up a special and unique control and ownership of patents, that is inconsistent with the long established general patent and property laws, intended to be effective to provide almost complete governmental control of a specific industry. The law as worded, construed, and applied seems to me to be socialistic in purpose and effect, while, on the other hand, its administration is under powers ordinarily reserved to an absolute and undemocratic form of government.

While the AEC apparently has granted upon request free licenses to U.S. citizens under its atomic energy U.S. patents, it is not required by law to grant such licenses, and there is no guarantee that it will continue to do so. That possibility constitutes a cloud over future private commercial activity in this field—at least some of the April speakers so believed and stated.

Also, under the statute, the AEC has power to require all present U.S. patentees and patent owners to grant a license at royalty that may be fixed by the Commission on any U.S. patent relating directly or indirectly to atomic energy, its materials, or uses. This also is a cloud on patent incentive in the commercial field.

The position of the Commission, as I understood Mr. Anderson, seems to be that the U.S. patents owned by AEC will be held for the benefit of all American citizens and will be so used, without advantage to any one over any other. I understand that the foreign patents held by AEC will be used to protect the United States from having to pay royalty to foreign countries under foreign patents owned by foreign governments. I understand that by treaty, and because of AEC ownership of foreign patents, certain countries have agreed that they will not discriminate under the patents owned by those governments between the rights and privileges and immunities given to their own citizens under those patents and rights, etc., afforded American ctizens operating in those foreign countries. If I understood Mr. Anderson's statement on this point, I do not see how such use of Atomic Energy owned foreign patents really protects U.S. citizens in commercial competition abroad where infringed foreign foreign patents are owned by citizens of those foreign countries.

I question the position that maintaining patent control of the atomic energy field by AEC ownership of U.S. and foreign patents is best for this country and

its industries. On the contrary, I believe that situation may be a distinct disadvantage to our industries and citizens. In spite of the opinion of the Attorney General and perhaps the opinion of counsel for the AEC, I seriously doubt that any U.S. patent owned by this country, or any of its administrative agencies, is of any future practical value or effect, so far as actual enforcement is concerned. It is inconceivable to me that the United States or any of its agencies could or would sue an American citizen for infringement of a U.S. owned patent. Ownership of a domestic patent by our Government seems to me in practical effect to extinguish the exclusive right granted under that patent.

As far as citizens of foreign countries are concerned, when operating in the United States, it seems to me that, as a matter of policy at least, this Government would not, regardless of treaty, discriminate in its treatment of its own citizens from its treatment of citizens of a foreign country, as far as infringing activities under AEC owned U.S. patents are concerned. And, so far as enforcement by the United States of foreign patents owned by AEC, I cannot visualize the United States as such, or on behalf of the AEC, bringing suit abroad against a foreign country, or any citizen of that foreign country, for infringement in that country, under such a patent. Consequently, it seems to me that the only direct value of AEC patents in foreign countries is that such patents may be used in intergovernmental trading. That is to say, the United States may by treaty grant certain rights to foreign countries under foreign patents owned by AEC, in exchange for certain rights granted AEC or the United States for operating within the scope of U.S. patents owned by the foreign government. How that can extend to or be of substantial value to U.S. citizens who seek to compete for commercial business involving atomic energy in the foreign country is not clear to me.

That brings us back to a major complaint of the industrialists at the April meeting, which, as I understand it, is that in case they have any contractual relations with AEC, they have to disclose to AEC all inventions made by their employees, and AEC has the right to patent those inventions and take title in its own name in the United States, and in any foreign country. The position of industry seems to be that such procedure does not give our contractors the competitive advantages and individual benefits of the inventions made by them, either in this country or abroad.

Many of the industries represented at the April meeting are in direct competition with each other in the atomic energy field, or, at least they would be if the Atomic Energy Act concerning patents were not in force, and if the general patent law were the only law applying to patents in this field.

It is remarkable that while spokesmen for the AEC seem to think that the holding of U.S. patents by it protects everybody in this country in the atomic energy field from patent advantage in commercial competition, and is therefore to the benefit of all, those representatives of industry vitally concerned argue that their respective interests would be better served if they were able to obtain individual patent rights giving them competitive restrictive advantages over their domestic rivals, even though anyone might be excluded from the use of valuable inventions of their competitors, or have to pay royalties thereunder. In other words, manufacturers in this field seem to be almost unanimous in desiring to take their chances of restricted competition, hoping through their inventiveness and initiative to obtain patents that will give them selling, manufacturing, production, or use advantages over their competitors. They appear to favor the competitive system as restricted by the normal patent law. That implies necessity to constantly advance and improve the art in patentable respects to meet competitors. They want the competitive advantages incident to the right of exclusion granted by patents owned by them, not owned by AEC. They want to own the foreign patents on their inventions to protect themselves when they seek business abroad. That can be done for example by trading licenses with foreign competitors, or by enforcing foreign patents by suits which American citizens can bring without international complications.

While I am inclined to believe that research conducted by the Government civil-service employees, in Government wholly owned, controlled, and operated laboratories, probably should be solely for the benefit of the public generally, I sympathize with the position of companies which do research and development and construction work under contract with AEC, under which those companies utilize, in filling such contracts, their engineers and scientists who may have spent years at the expense of the contractor learning the details and technical background necessary in carrying out the contract. The contractors believe they should be entitled respectively to the commercial rights under patents on

inventions made by employees of such contractors in carrying out the contracts. They concede that the United States and all its governmental activities should have a free license for noncommercial activities under such patents. They approve and prefer the DOD form of contract and applicable patent law.

It seems to me probable that the industrialists are correct in their argument that future advance in this industry would be faster, and far less expensive to the public, if those working in it had more incentive of possible personal gain based upon owning all commercial rights to the inventions made by them, whether under AEC contract or otherwise.

As it is now it may well be that those who take AEC contracts do so chiefly because the United States finances most or all of the work under the contract, and assumes most of the risk, and because the guaranteed payment by the Government makes atomic energy contracts safely profitable to the contractor. There is apparently little selfish incentive to the contractor or his employees to make and disclose valuable inventions in the course of fulfilling many of the atomic energy contracts, because when such inventions are made and disclosed under the present law they may become freely available to all domestic competitors, and possibly to their competitors throughout the world.

If contractors were permitted to patent inventions made by their employees in carrying out AEC contracts, subject only to military secrecy restrictions of prior existing laws, and to file and own proper applications for foreign patents, there would be more incentive to each contractor to advance the art in original ways and improve on prior practice in patentable ways. It is trite to say, but true, that such incentive and such selfish reward is the basic theory of our normal patent system. It seems to have worked well for this country and its industries, and under DOD practice and contracts.

Apparently one objective of the AE Patent Act and of the President's directives are that the United States at its own expense is to develop the atomic energy field for commercial use as fast as possible, and to make the technical knowledge obtained in that development available to the entire world, for the unrestricted benefit of humanity as a whole. Upon that basis only does it seem possible to justify the overall patent policy of the Atomic Energy Act, and some of the discretionary AEC patent practices thereunder.

While it may be said, and probably is true, that the expense of research and development in the atomic energy field is so great that private industry could not afford to undertake many of the vast projects now being financed by this country, the question still remains whether or not it would not be better from the point of view of the United States and its citizens, if this development were left to take its normal if slower course by operation of private industry as it sees the chance for individual benefits resulting from patentable developments and the inevitable normal operation of the effect of supply and demand.

Commercialization of the atomic energy field may soon reach a point where it includes a number of activities which hold out sufficient hope of profitable return to interest industry in investing and risking its own capital to a material extent. Industry itself, as I understand the April statements, feels that that time has now arrived, or is apparent in the near future. While certain activities might still require so much money that only the Government could afford it, even that probably could be furnished under terms that would offer more incentive to the contractor in regard to patents than that now existing. Industry seems to think so. It says so repeatedly.

The fact seems to be that the Atomic Energy Act sets up almost complete governmental control of an entire field of industry, and particularly of U.S. patents controlling that industry. While such a law may have been desirable and even necessary under the emergency conditions existing when it was first formulated, many think those conditions are now largely obsolete, because they believe little real and basic secrecy remains under control of the Commission. Apparently other countries of the world, and many industrialists throughout the world, know how and are able to make weapons, reactors, etc., utilizing atomic energy. If so, the time has come or is near when commercialization of the peaceful uses of atomic energy should displace governmental ownership and control. Individual commercial competition in that field throughout the world will probably become acute regardless of what the AEC does. If these assumptions are correct, it would seem that the patent chapter of the Atomic Energy Act should be amended and construed to have as a major objective the encouragement of individual research, development, and competition in the atomic energy commercial field in this country by private

capital. To secure that end the incentive of the exclusive rights which our general patent laws, and the International Industrial Property Convention relating to patents, normally give to inventors here and abroad, would seem to be the most practical, productive, and economical method of advancing the nonmilitary uses of atomic energy.

I do not know whether the function of the Patent Panel is advisory to the Chief of the Patent Section, to General Counsel, or the Commissioners, or all of them. I do not know whether our advice is to be volunteered, or expressed only when, as, and if requested. So far as my short experience as a member of it goes I wonder if the Patent Panel now actually serves any useful purpose.

However, it seems to me that if we are responsible for giving AEC, or any of its staff, advice on patent policy matters, we should give more careful consideration to the April 15 meeting, and the matters there directly or indirectly raised by industry, than we have done at this time.

I suggest that there are a number of subjects that should be considered seriously, and the opinions of the Patent Panel definitely stated for whatever it may be worth to whom it concerns.

Among such matters for consideration, I suggest the following:

1. Recommended to Congress that section 152 be deleted, or at least materially modified to restore patent rights to atomic energy inventors, substantially as provided by existing laws relating to patents in industry generally, subject only to exceptions necessary to protect the "common defense and security."

2. The power to grant compulsory licenses as to atomic energy patents on applications filed before September 1, 1959, should at least not be renewed. The AEC might well issue a statement of policy to the effect that no such licenses will be given under any patent for purely commerical competition.

3. Announce the policy of AEC to waive all AEC rights to atomic energy inventions that are not expressly reserved in specific contracts.

4. Modify patent clauses in AEC contracts to more nearly conform with the patents clauses now used by DOD in military procurement.

5. Announce that in all future contracts, and so far as practicably applicable to presently unpatented inventions, AEC will be by advance waiver permit contractors to have the immediate and sole right to patent their atomic energy inventions in all foreign countries, except so far as "common defense and security" considerations justify or require AEC control or secrecy.

6. Delete from the statute the prohibition of patents on atomic energy weapons.

7. Review the AEC restrictions under access permits.

8. Establish AEC policy to encourage and permit its American contractors to patent inventions on commercial atomic energy subject matter in their own names in this country and abroad except where "common defense and security" considerations necessarily restrict so doing.

9. Change the AEC overall policy from one of seeking to patent all important atomic energy inventions in its own name to one of making AEC owned patents the exception rather than the rule. Stated differently, that the AEC adopt a policy of having United States and foreign patents on atomic energy held by American citizens rather than AEC, except in very special and very few cases.

10. The AEC policy should be to reduce its control and ownership of atomic energy patentable and patented inventions useful in commerce rather than to extend and continue that control and ownership.

11. The basic policy of AEC should be to give American inventors in atomic energy subject matter the greatest possible benefit of foreign patents—whereby to strengthen American industries in competition with foreign industry here and abroad. That is not possible under AEC ownership of foreign patents.

JO BAILY BROWN.

Mr. BROWN. I shall be glad to answer any questions that you care to propound.

Representative HOLIFIELD. I think your statement and presentation will pretty well cover your position.

It looks like it is 12:30 now and my committee members have deserted me.

Mr. BROWN. Looks like I just got under the wire.

Representative HOLIFIELD. We are glad to have you here and appreciate you waiting for the opportunity to testify.

Mr. BROWN. I thank you for your courtesy.

Representative HOLIFIELD. The committee will adjourn and meet in this room at 2 o'clock.

(Whereupon, at 12:30 p.m. the committee recessed, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

Representative HOLIFIELD. The committee will be in order.

The next witness will be Mr. Anthony D. Cennamo, Industrial Nucleonics Corp.

We are running a little behind in our schedule, Mr. Cennamo, and I notice your statement is quite long. I wonder if you would allow the committee to accept this and print it in its entirety in the record, and you go through it and give us the highlights rather than give it to us completely.

STATEMENT OF ANTHONY D. CENNAMO, PATENT COUNSEL, INDUSTRIAL NUCLEONICS CORP.

Mr. CENNAMO. I appreciate the position you are in and I certainly will acceed to your wishes.

My name is Anthony D. Cennamo. I am a member of the bar for the District of Columbia, a registered patent attorney, and presently my position is patent counsel for the Industrial Nucleonics Corp.

It is a pleasure for me to come before this committee, and I appreciate the opportunity to appear on behalf of myself as a patent attorney and on behalf of the Industrial Nucleonics Corp. as its patent counsel. I may also state that I do not have the authority to speak for the entire radioisotope industry, but that I have discussed these patent sections with many other representatives of industries in this field. Therefore, my comments on behalf of the Industrial Nucleonics Corp. are equally applicable generally to those industries in the commercial application of radioisotopes.

My analysis of the patent sections of the Atomic Energy Act of 1954 may be resolved as a simple one and may be given in summary as follows:

Since the positions between the industries in military and power and that of the industrial developers of radioisotopes with respect to the Government is separate and distinct, the patent laws controlling military and power should be separate and distinct from the industrial developers of radioisotopes. Therefore, the granting of a complete patent monopoly to the Commission on inventions relating to the commercial application of atomic energy by contractors that have an established industrial and patent position and which positions were acquired without either governmentally created incentive or financial assistance, is not believed to be warranted.

With your permission I would like to illustrate in limited detail why these atomic energy industries are separate and distinct.

I. A BACKGROUND ON PATENT RIGHTS

The relative rights of an inventor to an invention made in the course of employment is simply one of equity. A fundamental review of the principles of employment of an inventor is necessary to

the understanding of the equities in the contractual relationship with the Atomic Energy Commission under the Atomic Energy Act of 1954.

A. Patents to individuals

A patent is a property right given to an inventor after he has complied with certain prerequisites. This property right is no different than any other personal property and the patentee may retain or dispose of his rights in any manner he chooses.

B. Patents under employer-employee relationship

Generally the most significant scientific developments are attributed to an employer-employee relationship and are not that of the sole inventor. This is even more so today in the fields of electronics, physics, and chemistry where complicated and expensive laboratory equipment is required to the making of the invention. When an invention has been made by an employee, what are his rights to the invention and what are those of the employer are much dependent upon the relationship existing between the two. Some of the factors that must be taken into consideration are: what is the background of the inventor, was he trained and educated prior to employment; is he paid to exercise ordinary skill or is he called upon to express his ingenuity and invent; is his compensation for his menial task, or is he also remunerated for his special skills; if he has special skills how were they acquired—through the employer's facilities or elsewhere; if he has special education was it acquired on his own or through his employer; and perhaps the most important, is his employer's business so unique that the skills exercised by the employee must be attributed to the employer. Simply stated in another way, what are the equities to the relationship. These equities shall determine whether the employer shall have the rights to the invention or whether they merely have a right to use.

C. Patents under contractor-contractee relationship

In many instances today the employer-employee relation is actually that of contractor-contractee between corporations. Every major corporation today subcontracts for many of the major and minor components of its products; and most contractors today have others conduct a certain amount of research and development on their behalf. The respective rights of the contractor-contractee are no different than those of the employer-employee and are determined much in the same manner.

D. Patents under Government-contractor relationship

Next for consideration is the role of Government in its contractual relationship with contractors. There is no legal or equitable difference between the Government and any other major contractor in its contractual relationship. Although it is admitted that there are discrepancies in the programs of the various agencies, the departments have recognized their contractual obligations and determine their rights to inventions made under contract in a manner consonant with equitable principles.

E. Patents under Atomic Energy Commission-contractor relationship

The 1954 Atomic Energy Act as it relates to patents, in certain aspects departs materially from the employer-employee or contractor-

contractee relationship; in other aspects the principles of equity may be considered as followed.

1. Military and power program: At the time the Commission was created there were no industries in the atomic energy military or power field. Since the Commission was established it has maintained an active and vigorous program to encourage the development and construction by private organizations of atomic reactors for power purposes. This program is principally through the underwriting of a very large proportion of the cost. In other words, immediate dollar return was not envisaged and therefore major private capital was reluctant to gamble on atomic reactors as a commercial source of energy.

From equity principles, then, if the Commission should have to create full incentive and provide full monetary support for a particular program, the principles of equity dictate that they should have full return on their investment. However, to counterbalance any equitable rights the Commission may have they departed from the accepted legal practices in (*a*) not wanting any dominating patents to issue, and (*b*) to disseminate as much information and as freely as possible. What the resultant rights may be to inventions made in the military and power fields is not specifically of interest.

2. Radioisotopes: A very important factor was overlooked in the act of 1954 and by the Commission in the administration of its patent program, that is, the field of technology growing out of the application of radioisotopes to industry. This is in a different category than that of the military and power components of atomic energy.

II. HISTORY OF THE DEVELOPMENT OF RADIOISOTOPES FOR INDUSTRY

Although the major industries in the military and power fields were not in the atomic energy business and required inventions, the contrary is true in the byproduct material field. Research and development was carried on with private capital many years prior to the birth of the Commission or the first act. This situation is well illustrated by a number of patents which have been issued over the years.

In this regard see Patent No. 1,317,082 (1919) that used radium to excite batteries; 2,097,760 (1930) for testing the uniformity of solid materials; 2,206,634 (filed 1935) for obtaining byproduct material; 2,133,776 (filed 1936), one of many patents on well logging using atomic energy; 2,277,756 (filed 1940), first of the backscatter patents; 2,264,725 (filed 1940) shows use of beta gage on steel mill—very similar to today's processes; 2,397,071 (filed 1941) showing the modern Geiger-Muller tube; 2,376,198 (filed 1943) showing the modern ionization chamber.

These patents are only samples of hundreds issued on the uses of radioisotopes.

Further, the research and development of these industrial devices not only started long prior to the birth of the Commission, but has been continued at an accelerated pace without money incentives, so to speak, from the Commission. The atom bomb during World War II and the race for atomic power thereafter completely obscured the very important continuation of the development of industrial and medical uses of radioisotopes. But these developments did not start

at that time. The failure to recognize this fact continues until this day.

III. BENEFITS OF THE ATOMIC ENERGY PROGRAM

The Commission has let it be known that—

The widespread use of radioisotopes during the last 10 years has been the first extensive civilian and industrial application of atomic energy * * *.

In other words, the day of cheap atomic power is not yet here but the Nation is already receiving a return on its investment in atomic energy through radioisotopes. But the return in the field of radioisotopes has not been the result of extensive Government investment as has been the case in power—the benefits of isotope applications in industry have been achieved through private capital.

IV. PATENTS IN THE DEVELOPMENT OF RADIOISOTOPES

A number of private companies have established industrial and patent positions in the commercial utilization of atomic energy. This industry, as pointed out above, commenced operations long prior to the atom bomb and has continued since that time independent of the military and power programs and without public backing. These companies have demonstrated to the public their use of the atom through the application of their equipment to the industrial processes and have promoted their technology with its economic benefits to the users. The savings to industry from the use of radioisotopes has been variously reported from $300 million per year upward.

And yet these industries have grown with a strong patent program that has not departed in any way from the standard type of patent systems of any other type or corporation.

V. THE EFFECTS OF THE ATOMIC ENERGY PROGRAM ON THE COMMERCIAL UTILIZATION OF RADIOISOTOPES

The company recognizes its responsibilities in exercising its technical capabilities in the furtherance of the Nation's military posture. It occupies a position of technical leadership in the field of the application of radioisotopes to commercial and industrial process measurements and automatic controls. However, the burdens incurred by the Industrial Nucleonics Corporation from participating in contracts which fall within the provisions of the Atomic Energy Act are very great. Already the direct costs which have resulted from a single contract held by the company in 1951 and completed in 1952 have amounted to several thousands of dollars in affidavits. These continue today on applications filed 7 years after the completion of the contract. If this burden has developed from one contract, will it not be 10 times as great from 10 contracts?

The company's business is almost wholly commercial. This is not particularly through choice but is to a large extent dictated by the extreme apprehension with which we view Commission supported development. Although the industry has achieved its position through the expenditure of its own funds, we stand ready to participate in the Commission sponsored programs that are intended to further the application of atomic energy in industry and commerce.

There are many potential applications of isotope techniques which can be nominated for immediate development. Some of these will no doubt be carried out by private enterprise because the economic returns are obvious, are large and are soon. But many others will not be developed soon by private laboratories working with their own funds. The Commission could obtain good value for funds expended in this area. But the companies with the best developed patent position and the most experience in the field are very hesitant to undertake such work since there is a very real risk of jeopardizing their whole commercial position which is based on their patent properties and their unpatented know-how.

From a public interest and good will standpoint, for both the Atomic Energy Commission and private industry, the exploitation of the atom in a manner that most closely and directly affects the public would seem to be a matter of necessity. The means for effectively gaining public acceptance of atomic energy can be most expediently and inexpensively carried out by those with the present know-how and ability. But yet the equities are not granted.

VI. REVIEW OF PATENT SECTIONS OF ATOMIC ENERGY ACT OF 1954

It is respectfully submitted that the following sections be revoked, rewritten, or amended, while taking into consideration the accompanying comments.

A. Section 152

1. Title to the Commission: This section of the act presumably gives the Commission title to any invention or discovery useful in the production or utilization of atomic energy if they are—

made or conceived under any contract, subcontract, arrangement or other relationship with the Commission, regardless of whether the contract or arrangement involved the expenditure of funds by the Commission.

In retrospect, it now appears that perhaps in the military program and in certain nonmilitary instances where available private capital is insufficient to the developments for the public interest, the Commission may be justified in retaining a stringent patent program. However, the granting of a complete patent monopoly to the Commission on inventions relating to the commercial application of atomic energy by contractors that have an established industrial and patent position and which positions were acquired without either governmentally created incentive or financial assistance, is not believed to be warranted.

This act does not distinguish between industries that acquired their position by prior contract and those industries that acquired their position on their own behalf.

This section of the act, as well as future policies and practices of the Commission, should permit the contractor that had an established industrial and patent position prior to entering into the contract to retain the commercial rights to all inventions made from routine development or production work. A strong line of distinction between complete assistance and mere furtherance of the atomic energy program should be drawn.

2. Filing of affidavits: The filing of affidavits required by section 152 is believed to be an unreasonable burden placed on the patentee of

systems and apparatus that only incidentally use radioisotopes. As pointed out above, the development of commercial products utilizing radioisotopes has been by private capital and not through Commission funds. Most companies in this field have had no contracts with the Commission or perhaps only incidental subcontracts for minor sums. Nonetheless, every patent application relating to the use of atomic energy must be accompanied by an affidavit setting forth all facts surrounding the making of the invention, the primary purpose, of course, to determine what, if any, public interest there is in the invention.

The industries commerically utilizing radioisotopes have built up their status through competition and a strong patent system. To defy the principles of the patent system for the benefit of the Commission is a serious breach to the competitive status of these industries. In other words, the necessity of requiring such a detailed history of every invention relating to atomic energy by those companies having no contractual relationship with the Commission is neither appreciated nor understood.

3. Waiver provision: As stated above, the position of the radioisotope industry in contradistinction of the military and power fields was overlooked in the act of 1954. I say this with full knowledge of the waiver provisions of section 152. Whether the radioisotope industry would come within "or under such other circumstances as the Commission may deem appropriate" I am not in a position to say. But I am in a position to say that the Commission has made it publicly known that they have not and will not exercise this waiver provision since Congress has failed to set standards, et cetera, the age-old adage of administrative law.

A very significant factor, however, is that in the suggested revision of section 152 by the Commission this phrase remains unchanged. Why has the Commission, if it feels it must abide by the suggested wording of this section, not made alterations to this phrase that will include the so-called standards that are lacking? The Atomic Energy Commission states that it cannot grant waivers under the section until clarified by Congress. We pray for such clarification.

In summary of section 152 it is submitted that the developers of commercial uses of radioisotopes should be permitted to become AEC contractors without having to grant to the public that which had found its basis through private funds. In other words, the granting to the Commission of any more than what is equitably required is not warranted. On the other hand, if the developers of commercial uses of radioisotopes have not and will not become AEC contractors, then these companies should be relieved of the burdens, such as the filing of affidavits, normally required of contractors.

B. Section 153

This section of the act, about to expire, provides for the compulsory licensing of patents in the field of atomic energy. Even though past history tells us that the prerogative of the Atomic Energy Commission to grant a compulsory license has not been exercised, this section, nonetheless, is of extreme concern to those industries competing with commercial products utilizing radioactive material.

Basically, the commercial utilization of atomic energy has three phases: (*a*) development; (*b*) manufacturing; and (*c*) marketing.

The pioneering or basic developments are no longer available for patenting even though atomic energy may yet be in its infancy. Consequently, any developments that may be made in this field will be limited to a particular commercial application. If the monopoly relative to this particular commercial application is broken, the returns from the developments may be lost.

In the manufacturing of commercial devices incorporating radioactive material it is the know-how of one corporation over its competitors that determines which company's products will be sold. Patents provide a reasonable amount of patent protection for that know-how. Again compulsory licensing leaves the more ingenious manufacturers without their competitive advantage.

In the field of marketing it can be shown that the greatest return lies in the first years of the sale of a new product. After the product has been marketed for a time, competition not only lowers the sale potential, but the company's reward for providing the public with new and better products is diminished relative to that particular item. This, of course, will occur in every instance where a patent can offer no protection against competitors after the initial years of sale.

Lastly, of extreme concern to industries in the commercial utilization of radioactive material is their patent licensing programs. Under the present program a patentee's control of his licensing rights are constantly in jeopardy. Since there is the probability that a license to a competitor may be required, the granting of an exclusive license and the complete control by the patent holder of the disposition of its patents is not possible under this section.

VII. CONCLUSIONS

The Atomic Energy Commission is making a concerted effort to bring the immediate benefits of atomic energy to the public; and it is acknowledged that the first and most extensive civilian and industrial application of atomic energy has been in the widespread use of radioiosotopes; and the commercial development of the use of by-product material has been without Commission funds.

In spite of the acceptance of the industrial uses of radioisotopes, the sections relating to patents in the Atomic Energy Act of 1954 are directed to military and power applications of atomic energy.

It is urged, therefore, that legislation be passed by Congress to rectify the inequities to the commercial developers of the use of by-product material.

Mr. Chairman, there are a few additional comments I would like to make, and then I would appreciate any questions you may wish to direct toward me.

The entire emphasis of my appearance is to illustrate that there is a very, very important difference between the radioisotope industry in contrast to the power and military industries. Irrespective of the equities or the positions of these other industries they are of no particular concern to the radioisotope industries. These radioisotope industries began their research and development of their products long before the first atom bomb was dropped, and have continued at an accelerated pace since that time without Commission funds of any sort. I am not speaking of a few incidental medical research contracts

or perhaps some university contracts. I am speaking of instruments and gaging for industrial concerns.

So whatever equities the Government may have or the Atomic Energy Commission may have with respect to the power or to the military is not applicable to the radioisotope industry.

One of the things that I believe was pointed out by the Commission yesterday was with reference to page 47 of the report, that is, there were of the order 600 to 700 patent applications being filed in the Patent Office by private corporations. A statement that I wish to reiterate here is—

> that these patent applications resulted from no activity of the Commission whatsoever. This is illustrative of the competitive spirit of industry and there is a great participation by private capital.

Also specifically mentioned was the instrument and the radioisotope fields.

Representative HOLIFIELD. Do you contend that is not a true statement?

Mr. CENNAMO. No, sir. I am reiterating the statement as a true statement. I am trying to emphasize the point that a substantial amount of independent capital is being expended and has been expended in the radioisotope industries completely independent of the Commission.

Representative HOLIFIELD. Have you found yourself crippled in any way in obtaining patents on work which was done exclusively by companies such as yours in the isotope field, and if so, in what way?

Mr. CENNAMO. In the first way that we may be crippled—I will take this in order, if you will permit me, sir—let us speak of the compulsory licensing provisions.

Representative HOLIFIELD. Has that been imposed upon your company in any way?

Mr. CENNAMO. No, sir, it has not in the past. But I may point out that our patent position is one of relative newness, you might say—we won't really attain a strong patent position until the next 2 or 3 years, or perhaps sooner. It was also mentioned yesterday by the Commission that there are patent applications that may come within this category of patents that would require compulsory licensing and some of these patent applications may very well be ours. I want to stress here that we are in a very highly competitive field. We are not dealing with the Government. We are dealing with each other. We sell industrial products and we have many competitors that sell industrial products.

We abide by the standard patent system of where a patent gives you a competitive advantage. If you may permit me to say so, we are looking to make the sale. We are not looking for royalties under a patent, even if we were afforded a reasonable royalty. We are not in a patent licensing outfit.

We are a company that sells industrial devices, and we want the competitive advantage that a patent offers. There is forevermore the threat of a compulsory licensing if we should get a patent that would give us a competitive advantage.

Representative HOLIFIELD. Wouldn't it be necessary for any applicant for cross-licensing of one of your patents to prove before the Atomic Energy Commission that he was being damaged by the mo-

nopoly position that you have in order for the Commission to even consider an application for cross-licensing under the terms of the act?

Mr. CENNAMO. This may very well be proved. Since we are under suppositions here, let us suppose that we do get a patent that gives us a better instrument than the competitor is able to produce, this is the instrument that the industry is going to buy. He would be injured by the fact that the patent would prohibit him normally from manufacturing this particular instrument. I don't envision any particular difficulty in that respect.

Mr. TOLL. In response to that I believe that 153 e. would require much more than that it was a good device that he would like to use. He would have to prove that it was of primary importance to his entire operation that he be allowed to use that device before the Commission could compel licensing. In view of the fact that industry has never requested that this section be used, and that the Commission has not instituted a compulsory licensing action, it is a little difficult to see why you are so worried about it.

Mr. CENNAMO. Again I would like to say this is strictly under the supposition. I may be worried needlessly, of course, if the Commission should never exercise their right under the section. This may turn out even if the compulsory license provision is extended for 5 years.

But the amount of proof required under section 153, I am certainly not in a position to say what is absolutely required or what is not absolutely required. Whether it is just a mere showing that he would be damaged or whether he would actually have to be put out of business has not been resolved.

So long as we are working on a supposition I can see certain applications of instruments or certain manners in which it may be built where one would work and the other would not work. It is a matter of making a sale or not making a sale. This to me is pretty strong damage to a company in a highly competitive business.

Mr. TOLL. Are you aware that Germany has had a compulsory patent licensing provision on its statute books since 1913?

Mr. CENNAMO. Yes.

Mr. TOLL. Haven't the Germans done all right as far as industrial development is concerned?

Mr. CENNAMO. The only answer I can give to that is that I am sorry that I can't speak in one way or another what the German industry has done. I am not sufficiently knowledgeable in that area. I am aware, however, that under the American patent system we have never had a compulsory licensing provision, and it is under the American patent system that the present-day industry have grown to what they are. I still like to believe that the American system is the right way.

Representative HOLIFIELD. You may proceed.

Mr. CENNAMO. There is a very important factor where I think the company is being injured by the present patent laws. The Industrial Nucleonics Co., not in itself alone, but other companies with a similar amount of experience and knowledge in this particular field, has refused under certain circumstances or in one way or another to become contractors to the Atomic Energy Commission. These companies have

a tremendous amount of background and know-how; they have trained personnel; they have the facilities; they have everything in the world that the Commission is looking for and the Commission should have the benefits of. Under these present patent laws these companies have all kept at arm's length with the Commission.

In so many words it really amounts to the fact that exactly what these companies are doing and what they want to do and exactly what the Commission is doing and what to do, is the same, but yet they are at arm's length because of these very patent clauses.

Mr. TOLL. Is it your position that the Commission can't get firms to do the job that the Commission wants done because of the patent laws?

Mr. CENNAMO. This is my belief, yes, sir; in the radioisotope field. I am not speaking of nuclear fission or power. I am speaking only in the radioisotope industry.

Representative HOLIFIELD. How many companies are engaged in the use of radioisotopes? I am speaking now of gages and the production of devices for industry to use.

Mr. CENNAMO. Sir, I don't have a definite answer to that question, but my guess would be approximately 100 to 200.

Generally speaking they are small companies by way of capital compared to larger corporations. There are of the order 100 to 200 putting devices on the market—either laboratory, industrial, or medical devices.

Representative HOLIFIELD. This would indicate that there has been quite a development in this field as a result of the Atomic Energy Commission being able to furnish you the basic material which would allow you to go into business. While it is true as you say in your statement that there were all types of patents filed for the use of beta and gamma rays, yet there was not a cheap product available which would allow you to apply that in a mass way in instruments which could be used in industry until the Atomic Energy Commission started producing these isotopes in their reactors and made them available in a mass way for your companies to use.

Is that not true?

Mr. CENNAMO. That is true, sir, and our relationship with the Commission in the licensing field has been, you might say, the most cordial. We have been very cooperative with the Commission and the Commission has been very cooperative in our program. We certainly appreciate what the Commission has done in making available to us radioisotopes, as you say, at a low cost.

Also, making them readily available to us.

I still would like to point out, sir, that despite the relative cost of these radioisotopes that the development in this particular field started long prior to the Commission itself, and there are other source types of material available not licensed by the Commission. Radium is one, and direct X-ray is another one.

Representative HOLIFIELD. Of course your patent position in that field is established because it happened prior to the act.

Mr. CENNAMO. Yes, sir.

Representative HOLIFIELD. Just the same as the Enrico Fermi patents were established and were considered as an established equity.

Mr. CENNAMO. Yes, sir.

Representative WESTLAND. Are you saying, Mr. Cennamo, that your company hesitates to do business with the Atomic Energy Commission because of the fear that you might lose your patent position?

Mr. CENNAMO. First of all, sir, I would like to say, or like to interpret "doing business."

We do business with the Commission every day. I assume you are speaking of a contractual relationship for the development of instruments for the benefit of the Commission's program. My answer to that is, yes, sir, we are very reluctant. As a matter of fact, we have not even submitted proposals when requested to enter into a contractual relationship with the Atomic Energy Commission only because of the patent sections of the 1954 Atomic Energy Act.

Representative WESTLAND. In a contract, couldn't you write into the contract itself as a condition precedent, assuming this contractual relationship, that in no way would your patent position be injured or affected?

Mr. CENNAMO. First of all it is not quite that simple. At least with the Commission in my experience we cannot cross out everything that has happened in the past. The first reason I say this is because it is on a cost-sharing program. Not only are we not compensated for our know-how, our background, our facilities, our training and experience in the field, but we are not even getting full compensation for the work that is offered under the contract.

Representative WESTLAND. I can't quite understand that, since you have not entered into any contractual relationship. How do you mean you are not getting any compensation?

Mr. CENNAMO. I used the wrong tense. I meant to say we would not get if we entered into the contractual relationship.

Representative WESTLAND. It seems to me assuming quite a bit when you have not even written the contract to decide ahead of time that you would not get paid the proper amount.

Mr. CENNAMO. Perhaps it is an assumption, sir. These were the terms that were offered. When you sit down and negotiate terms of a contract they can be changed.

Representative WESTLAND. In other words, you have attempted to negotiate contracts?

Mr. CENNAMO. We have discussed this matter with the Commission on several occasions; yes, sir.

Representative WESTLAND. But so far have never entered into a contract because of the terms of the contract?

Mr. CENNAMO. Yes, sir.

Mr. TOLL. Mr. Cennamo, isn't it true that as long as you developed your product with your own money completely privately you have had no patent problems caused by the Commission; is that correct?

Mr. CENNAMO. Other than the licensing provision. To stick literally to your question, this is correct. There are other problems, however, that you might say are directly attributable to the patents that we have. It is more of the future that I am concerned with, than the past.

Mr. TOLL. It is when you seek Government funds through Government contracts that you will give up any rights to the patents developed through those contracts; is that right?

Mr. CENNAMO. Yes, sir. But I would like to interpret a little bit more your wording of "seeking Government contracts."

I would like to make it clear that we have not sought Government contracts. We feel that there will come a time when we will be compelled to get into a contractual relationship with the Atomic Energy Commission because of our reputation and our position in the field.

If you would like for me to give you a specific instance, I will do that, sir.

For instance, many of the companies purchasing our equipment are also Atomic Energy Commission major contractors—General Electric is one of them; Olin Mathieson is another. These companies recognize our position in the gaging and instrument field. They will call upon us when a problem arises. They say, "we understand you have the know-how in this particular field; how can you help us." As soon as we find out that the questions they ask are directly related to Atomic Energy contracts, we have to turn a cold shoulder to them. It is just so long that you can turn a cold shoulder to your customers and stay in a competitive business. It is just not done.

This is why I say we feel that we will be compelled into a contractual relationship sooner or later with the Commission.

Mr. TOLL. If you did business with the General Electric Co. and the General Electric Co. financed it, who would get the benefit of it?

Mr. CENNAMO. Under the normal contractual relationhip we would retain the patent rights. They would have a right to use.

Representative HOLIFIELD. This is supposed that the money used by General Electric would be their own money.

Mr. CENNAMO. Yes, I presupposed that.

Representative HOLIFIELD. The point where you see there might be some conflict in your patent position would be that if General Electric, as a contractor with AEC, mingled AEC money with theirs and with yours in any contract with you that you would have to assume the same obligations they do.

Mr. CENNAMO. We would be just a subcontractor under their contract.

Representative HOLIFIELD. But if they wanted to hire you to develop any type of device in the field of isotopes use on a separate contract, using their own money, and not charging it up to a Government contract, you would not find yourself in an embarrassing position.

Mr. CENNAMO. No, sir, we do this all the time.

Mr. TOLL. If the General Electric Co. were to finance research and development by your company, it is my understanding that, under normal industrial practice, that General Electric Co., not your company, would get the patents, and therefore AEC policy is consistent with normal industrial practice. The person who pays for the research and development gets the inventions; is that correct?

Mr. CENNAMO. No, sir, I don't believe it is normal practice. I think my report emphasizes some of the equities involved in determining what the contractual rights are under an item being developed. It may very well be true that it would be the result that they would get the title. I think under the circumstances of our particular relationship I don't think they would get title to the invention.

Representative HOLIFIELD. That would be in accordance with the terms of the contract?

Mr. CENNAMO. That is right.

Representative HOLIFIELD. If General Electric came to you with a problem and said we will furnish X number of thousand dollars

for you to develop for us the type of instrument that we need and we will share with you in the benefits of any patents that may accrue or we will give them all to you or we will retain them, then it would be a matter of voluntary association on your part as to what the terms would be.

Mr. CENNAMO. Yes, sir. I don't think this is necessarily general practice. I think it is strictly a contractual relationship.

Representative HOLIFIELD. You may proceed.

But first I will read to you the testimony we have from the Commission to the effect that it has been the general commercial practice for many industries to acquire the rights of inventions from industry-sponsored research and development work.

Furthermore, most industry has pursued the policy of acquiring rights in the inventions of its employees.

The policy of the U.S. Government has not been uniform.

And then it goes on to say that the Defense Establishment has one arrangement, the Department of the Interior, the Department of Agriculture, Federal Aviation Administration, and others have pursued industrial policy in acquiring rights. It is the Commission view that where the Commission sponsors and pays for the research and development that the resultant inventions and discoveries should be the property of the Government for the benefit not only of the particular contractor but of the general public.

That is their testimony on that point.

Mr. CENNAMO. Yes, sir.

I do not believe I have anything to add, sir.

Representative HOLIFIELD. We thank you, sir.

The Chair wishes to commend you for coming forward with a statement of this kind, because we do not have as many witnesses as we expected presenting your viewpoint.

Thank you very much.

(The following supplementary statement was subsequently received from Mr. Cennamo:)

REPORT ON THE FILING OF AFFIDAVITS UNDER SECTION 152 OF THE 1954 ATOMIC ENERGY ACT

I. 42 U.S.C. 2182 (SEC. 152)

This section of the 1954 Atomic Energy Act requires "* * * a statement under oath setting forth the full facts surrounding the making or conception of the invention or discovery described in the application * * *."

II. PRIOR TESTIMONY

The following is an excerpt taken from my testimony given before the Joint Committee on Atomic Energy on April 22, 1959:

"2. *Filing of affidavits*

"The filing of affidavits required by section 152 is believed to be an unreasonable burden placed on the patentee of systems and apparatus that only incidentally use radioisotopes. As pointed out above, the development of commercial products utilizing radioisotopes has been by private capital and not through Commission funds. Most companies in this field have had no contracts with the Commission or perhaps only incidental subcontracts for minor sums. Nonetheless, every patent application relating to the use of "atomic energy" must be accompanied by an affidavit setting forth all facts surrounding the making of the invention, the primary purpose, of course, to determine what, if any, public interest there is in the invention.

"The industries commercially utilizing radioisotopes have built up their status through competition and a strong patent system. To defy the principles of the patent system for the benefit of the Commission is a serious breach to the competitive status of these industries. In other words, the necessity of requiring such a detailed history of every invention relating to atomic energy by those companies having no contractual relationship with the Commission is neither appreciated nor understood."

III. WHAT CONSTITUTES FULL FACTS

The above testimony is based on a prior opinion that the statute requires the filing of an affidavit with the Commissioner of Patents giving facts surrounding the making of the invention. Accordingly, in the prosecution of its patent applications in the U.S. Patent Office this corporation, in its endeavor to comply with the law, has filed with the Commissioner of Patents the "full facts surrounding the making of the invention" on each patent application prior to its issuance.

In the review of certain Patent Office file wrappers it has come to our attention that others filing affidavits with the Commissioner of Patents under section 152 were not filing the full facts—as a matter of fact, some corporations were not filing any facts surrounding the making of the invention.

The query, then, is how much information is required to satisfy the full facts requirement of section 152.

IV. ADMINISTRATIVE PROCEDURE

Since it is apparent that the purpose of this requirement of section 152 is for the AEC to make a determination of their rights to inventions filed in the U.S. Patent Office, the above query of how much information is required was submitted orally to the Commission. The answer received was that it is strictly up to the Commissioner of Patents to determine how much information is required.

This response was followed by a statement that the procedures used by most corporations is to file the minimum amount of information with the Commissioner of Patents. Then if the AEC determines from its card file that they may have rights they will request further information for their satisfaction. But this additional information is submitted directly to the AEC and does not become a part of the public file wrapper of the patent.

From a practical standpoint the Commissioner of Patents is not in a position to determine what facts are essential for a determination of the rights of the AEC. It is the AEC that has the contractual information and only they can determine whether the invention comes within the scope of the contract or other relationship. Nonetheless, unless a procedure is established by law there will be those that will suffer merely because of their intentions to comply with the law.

A final point is that there is no apparent policing of the filing of affidavits by the Commissioner of Patents or the AEC. This is evidenced by the fact that patents relating to the use of atomic energy are being issued without the filing of affidavits of any kind.

V. ANALYSIS OF PURPOSE OF REQUIREMENT

When the additional information is submitted to the AEC rather than the Commissioner of Patents the purpose of the statute, i.e., to permit the AEC to make a determination of its rights, is met; but has the law been complied with? Also, since the law requires the filing of the full facts, and since the affidavits become public records, is then the additional information submitted to the AEC public information?

VI. VALIDITY OF PATENT

Section 152 states, "* * * No patent * * * shall be issued unless the applicant files * * * a statement under oath setting forth the full facts surrounding the making or conception of the invention * * *." If the filing of an affidavit with the Commissioner of Patents giving full facts surrounding the making of the invention is a prerequisite to the issuance of the patent, then each and every patent issued without the full facts submitted to the Commissioner of Patents is invalid.

An unofficial opinion of an AEC patent representative is that the failure to file such an affidavit makes the issued patent invalid. But the validity requirement should not be limited to failure to file and must be extended to failure to file the full facts.

VII. SUMMARY

Patents relating to use of atomic energy are being issued without the filing of the affidavit required by section 152.

On those applications where an affidavit is required, no uniform procedures have been established in the Patent Office for the determination of what constitutes the full facts surrounding the making of the invention.

The AEC has taken the position that it is up to the Commissioner of Patents to determine what constitutes full facts and so long as the information is submitted to the AEC upon request, the interests of the Commission are satisfied. The information submitted directly to the Commission does not become a part of the public file wrapper of the issued patent.

VIII. CONCLUSION

The requirements for the filing of affidavits on those patent applications relating to the use of byproduct material should be stricken.

In any event, clarification is required on the inconsistencies of the statute. If the law requires that "full" facts be filed with the Commissioner of Patents it should so state unambiguously.

If the sole requirement of the statute is to satisfy the interest of the AEC, then the law should provide for the filing of the affidavits directly to the Commission with a clear understanding of whether or not the information is to be made public.

Respectfully submitted.

ANTHONY D. CENNAMO,
Patent Counsel for Industrial Nucleonics Corp.

Representative HOLIFIELD. Our next witness is Mr. Paul Nelson, National Rural Electric Cooperative Association.

Mr. Nelson.

STATEMENT OF PAUL NELSON, STAFF ECONOMIST, NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. NELSON. Mr. Chairman and members of the committee, I will take as short a time as possible.

Representative HOLIFIELD. I notice you have a short statement.

Mr. NELSON. Yes, sir. My name is Paul Nelson. I am the staff economist for the National Rural Electric Cooperative Association. The NRECA is the national trade and service association for over 95 percent of the rural electric organizations in the country. These rural electric organizations have some 4 million consumer-members.

I am not, nor is anyone of the staff of NRECA, expert in the highly technical discipline of patent law, nor do we claim to be fully versed in all of the content, ramifications and significance of all the patent provisions of the Atomic Energy Act of 1954. For these reasons, we would like to limit this statement to a few brief remarks on subsection 153h, the so-called "compulsory licensing of patents" provision—a provision of the law which we feel has great significance for not only the rural electric program but for the entire American public.

NRECA has since the debates on the proposed 1954 atomic energy legislation continued to oppose the granting of "traditional" patent rights where atomic energy technology is concerned; we again made this position clear at the Atomic Energy Commission patent meeting held on April 15, 1958. We would at this time like to take a few brief moments of the committee's time to again reiterate our position.

We continue to believe that the United States has not begun to scratch the surface of nuclear power art and tecnology. To be sure, great progress has been made in the last several years in developing the "nuclear arts"; however, I do not think it would be stretching the point too much to say that in this new technological field, we occupy the same relative position that lighter-than-aircraft technology occupied in the day and age of the Wright Brothers. The wisdom of the Congress, both in 1916 and 1954, I believe, recognized this fact by providing certain restrictions or exceptions in the Atomic Energy Act to the operation of traditional patent policy and law.

We certainly agree with Mr. Casper Ooms, former U.S. Commissioner of Patents and member of the Atomic Energy Commission's Patent Advisory Panel, when he said in 1956 that:

> A properly guarded and restricted provision to permit the Commission to exercise a reserve power of subjecting any dominating patent to compulsory licensing seems at this stage to be a necessary part of atomic energy legislation. The very restricted provision for compulsory licensing which is found in the 1954 act accomplishes this purpose.

We cannot fully agree with the more recent statement made by Mr. Ooms to the effect that since industry is rather unanimously opposed to the present compulsory licensing provision of the 1954 act, and since, in Mr. Ooms' opinion, the compulsory licensing provision was placed in the act exclusively for industrial protection, that the provision for compulsory licensing could be stricken. It is our belief that the legislative intent in enacting the compulsory licensing section of the act was not only to protect industry in general, but also to protect the public, which no one would deny has a great stake and investment in the entire complex atomic energy development. To be sure, industrial witnesses and representatives have consistently opposed the compulsory licensing provision of the act; however, as has been pointed out, little, if any, of the criticism that has been voiced by industry has been documented with actual cases.

To our way of thinking, the compulsory licensing provision of the act allows, as former Attorney General Herbert Brownell has pointed out, the U.S. Government to take "preventative action" in an effort to maintain some competitive elements in this vital and nascent technical field.

I believe our position has been most adequately expressed by two of our Nation's leading economists—Walter Adams and Horace M. Gray, who stated the problem in this manner:

> * * * the argument that ordinary patent privileges should apply to atomic energy in the same way that they apply to other fields is not justified by the facts, at least at this time. To say that everybody has an equal opportunity to patent inventions and discoveries is misleading and disingenuous.
>
> It is not equal opportunity to open the door to any and all comers, when some are on the doorstep and others are miles away. It is not enought to define free enterprise like the elephant, who, dancing among the chickens, shouted, "It's every man for himself."
>
> Whether compulsory licensing of patents should be the rule for another 5, 10, or 15 years is almost impossible to say at this moment, but the better part of wisdom would be to continue compulsory licensing long enough to assure broad participation in the industry and development along competitive, rather than monopolistic lines.
>
> Let the race go to the swift, but only after all contenders have had a chance to move up to the starting line.

Without taking up any further time of the committee, I will close by saying that in our opinion, section 153h of the Atomic Energy Act of 1954 should be extended and, therefore, we fully support the legislation introduced by Senator Gore—S. 1652—and Mr. Holifield—H.R. 5846—and the similar position taken by the Atomic Energy Commission in this matter.

Representative HOLIFIELD. Are there any questions?

Mr. TOLL. Mr. Nelson, you don't take any exception to the American patent system as a whole? You believe it has a proper place in our economic society?

Mr. NELSON. By all means. This is a rather peculiar instance in this nuclear field and I believe a valid exception to traditional patent procedure. I don't know of any other type technology where the public has invested funds to anywhere near the extent that they have invested in the atomic energy program.

Representative HOLIFIELD. Thank you, Mr. Nelson, for your statement.

Our next witness is Mr. William H. Davis, of the New York Patent Law Association.

We are glad to have you before us again, sir.

STATEMENT OF WILLIAM H. DAVIS, ON BEHALF OF THE ATOMIC ENERGY COMMITTEE OF THE NEW YORK PATENT LAW ASSOCIATION

Mr. DAVIS. Mr. Chairman, I have a paper of which copies have been handed up. I am not going to take your time to read it. If you agree I will submit it and then try to touch the high spots.

Representative HOLIFIELD. It will be printed in its entirety and you go ahead and take such time as you feel you need to bring before us the important points of it.

(Mr. Davis' complete statement follows:)

The committee is unanimously of the opinion that the time has come to free the technology of atomic energy from the restrictions as to patents embodied in the Atomic Energy Act of 1954, and to restore it to the same status with respect to patents as all other technology, unless upon some specific point or points there are realistic reasons of great weight for doing otherwise.

The policy of the United States as to the development, use and control of atomic energy is declared by the Congress to be—

(1) "To make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security."

(2) "To promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition and private enterprise."

We are discussing the patent sections of the act—151 to 160, inclusive—and their relation to the realization of that declared policy.

We underscore that an invention and a patent are very different things. An invention is an imaginative creation that carries the art beyond the previously available resources of skillful men; it is inventions that achieve progress in the useful arts. A patent is a governmental grant to an inventor of the right to exclude others from the use of his invention for a limited time. It is by such right to exclude that patents promote the initiation, the disclosure and the exploitation of inventions.

Section 151 excludes inventions in atomic weapons from our patent system—paragraphs (a) and (b). Section 157 substitutes for the grant of a patent payment of just compensation determined by the Patent Compensation Board. We are opposed to this substitution at the very heart of the development and use of atomic energy for the common defense, i.e., in weapons.

We agree with the recommendations of Mr. Dienner and Mr. Brown of the patent panel of the Atomic Energy Commission that paragraphs (a) and (b) of section 151 should be repealed—Selected Materials on Atomic Energy Patents, volume 1, March 1959, pages 34 and 36.

The third member of the panel, Mr. Ooms, makes no recommendation. He notes the objections that have been made on the ground that it deprives the development of atomic patents of the normal incentive inherent in the patent system.

As to the arguments advanced in support of the provision, he mentions secrecy, and the thought that since the Government is the only market for such inventions and has full freedom under title 28, United States Code, section 1498 to make and have made such inventions subject only to liability to the patentee in the Court of Claims, and since the multiple sources of military supplies required by the Government for defense procurement cannot be enjoined, "there is really no benefit conferred by a patent upon a military weapon. * * * In many respects a patent on a military weapon is emasculated, and its possession a delusion."

But let us take a realistic look at the effect of abolishing the patent system and substituting a Government award, in this or any other useful art.

We believe that experience with inventors soon brings one to realize that they are persons who have or want to have the obligations of a family, to meet the cost of living, and to pay taxes, like the rest of us. Creative inventions do not come to them out of the blue, like babies delivered by the stork. On the contrary, they devote their time and energy and even risk the welfare of their families in pursuit of a passion for creation which drives them to follow the road of invention as a way to keep alive and improve their standards of living. They expect to reach their goal by the fruits of their invention.

One who says to such a person that patents are not granted in the field of atomic weapons and tries to persuade him that Government bounty is the equivalent is unlikely, in our opinion, to have any success. The inventor's desire is to be in a position to bargain with the Government on the basis of a right measured by his invention and protected by the legislation under the constitutional provision for securing for limited times to inventors the exclusive right to their discoveries.

It is true that the Federal Government is preeminently the buyer in this field, and no doubt this puts limits on the bargaining possibilities. It is not however by any means true that the market for American manufacturers of weapons is solely the Federal Government. That may be true of atomic weapons at the moment, but it may not continue to be true. Our military forces having protection under 28 U.S.C. 1498 have been content to get along without wiping out the incentive of the patent system with respect to weapons other than atomic weapons. We see no reason why the same rule should not be applied in connection with atomic weapons, and every reason why it should be, since otherwise inventors generally will turn away from the development of the art of atomic weapons which is so critically important for the country's defense.

Section 151(c), which provides for reporting to the Atomic Energy Commission all inventions in the field of atomic weapons—(a) and (b)—would not be necessary if the incentive of the patent system were preserved, since the inventors would then file patent applications and all such applications are reported to the Atomic Energy Commission under the provisions of section 151(d).

But section 151(c), perhaps by inadvertence, embraces also the reporting of all inventions, "useful in the production or utilization of nuclear material or atomic energy," within a defined period after the inventor "completes the invention, or first discovers that it is useful in the manner expressed in the statute."

The vagueness of this requirement both with respect to the subject matter and with respect to the date of completion of the invention or the discovery of its usefulness in the defined field has made it practically incapable of implementation. The only sanction is the provision of section 157(b) (3) that the report is a necessary prelude to the application for an award.

Section 152 provides that inventions "useful in the production or utilization of special nuclear material or atomic energy, made or conceived under any contract," et cetera, "or other relationship with the Commission," "shall be deemed to have been made or conceived by the Commission" or as now proposed in the suggestions in the AEC draft bill—Selected Materials, page 20—"shall be vested in and shall be the property of the Commission." It is this provision of the act that has made it almost impossible for independent organizations who engage

in Government atomic energy work and also in private atomic energy developments to operate without imperiling their patent rights in their private inventions. This has already led to a very substantial withdrawal of important industrial enterprises from the field of Government atomic development, and in our opinion this withdrawal will "snowball" unless this provision of the act is repealed.

One gathers from the statement of Mr. Roland Anderson on behalf of the AEC "Selected Materials," pages 133–143, that the Commission is well satisfied with its benignity in the exercise of this broad power, but we suggest that that is to be expected from such an administrative agency.

Moreover, the fact is that patent rights which come into the hands of the U.S. Government are no longer patent rights at all. The right to exclude which the Patent Act provides has never been exercised by the U.S. Government and, in our opinion, never will be. It is hardly necessary, we think, in speaking to this body, to emphasize the political implications that would be involved in any plan to have the Atomic Energy Commission grant exclusive rights under Government-owned patents.

The disruptive effect upon the foreign patent rights of American inventors and industrial concerns has been adequately treated by other summations included in the "Selected Materials" pamphlet, and needs no elaboration by us. While we agree with the suggestion that if this provision is to be retained in the act in any form the Patent Office Board of Interferences shall be relieved of the duty of determining whether the invention was made or conceived under the conditions specified in the act and this duty should be transferred to the U.S. district courts, yet we do not think that that would remove the basically undesirable effects of section 152. On the contrary, we are in full agreement with the recommendations of Mr. Dienner and Mr. Brown that this section should be repealed; that the Government should rely on the law as established in the case of *U.S.* v. *Dubilier*, 289 U.S. 178; and that the provision for assignment to the United States should be covered in the contracts made by AEC.

Section 153 is the section which provides for compulsory licensing when the Commission finds "that the use of invention or discovery is of prime importance to the conduct of an activity" by a person licensed to use the invention under the act, and that the applicant for the license "cannot otherwise obtain a patent license from the owner of the patent on terms which the Commission deems to be reasonable."

We agree with Mr. Ooms that "compulsory licensing fundamentally is a violation of the essential concept of the patent system" and that it "contradicts the fundamental feature of a patent" so that there has been developed a public attitude that "compulsory licensing is abhorrent to the patent system."

Furthermore, we believe that such a provision is unnecessary for the intended purpose. The issuance of an injunction is within the power of an equity court, and our courts have never hesitated to deny an injunction on the balance of the equities where it appears that the possible hardship to the patent owner, who can recover reasonable compensation, is overborne by considerations of the harm to the public that would result from an injunction. See, for example, *City of Milwaukee* v. *Activated Sludge*, 69 F. 2d 577, at page 593.

While we think this power in the equity courts is already available and well established in the law, yet if the Congress feels that it needs to be made more explicit, as we do not, then we would suggest a congressional enactment to the effect that a finding of the AEC in conformity with the provisions of section 153 would be taken in any court of competent jurisdiction as prima facie evidence that an injunction should not issue.

Subsection (h).—If the compulsory license clause is retained in the act we do not think that any change should be made in the date September 1, 1959, which now appears in subsection (h). The only considerable contentions in favor of changing this date that we find in "Selected Materials" are the contentions of the two associations engaged in public service enterprises, the National Rural Electric Cooperative Association and the American Public Power Association—"Selected Materials," pages 153 and 168. We believe that the apprehensions of these associations are unjustified in view of the power of the equity courts to protect the public interest by injunctions, to which we have referred.

Section 154, which prohibits injunctions where the use is licensed under subparagraphs (b) and (3) of section 153 is, in our opinion, quite unnecessary and should be repealed.

Section 155, which provides that undisclosed knowledge in the AEC shall be a bar to patenting of an invention throws a cloud upon the validity of all patents in any way related to the atomic energy program.

Section 156, which provides for Commission patent licenses is, in our opinion, unnecessary since we do not believe that the United States ever should or ever will set up any administrative agency for exercising the right to exclude under U.S. patents, a practice which, as Mr. Ooms points out, "would constitute a fundamental departure from more than a century of free licensing."

Section 157 which sets up the Patent Compensation Board and provides for compensation, awards and royalties to the owner of a patent licensed under section 158 or subsections 153(b) or 153(e) and to persons seeking just compensation under section 151 is, of course, part of the scheme for substituting an award for the usual compensation available to a patentee in the Court of Claims. While we fully agree that the Patent Compensation Board set up by the AEC has done a first class job, yet that does not alter our conviction that the whole scheme should be eliminated from the act.

Section 158—Monopolistic use of patents.—Everyone agrees that this section should be repealed, including the Atomic Energy Commission.

Section 159.—It seems entirely clear that there is nothing in the act that affects the right of the Commission to require that patents granted or inventions made or conceived during the course of federally financed research, or operation, be assigned to the United States. The Commission certainly has the right and power to require that in its contracts, and we agree with Mr. Brown that the clause being unnecessary and therefore superfluous may also be misleading. We think it should be repealed.

Section 160—Saving clause.—We agree with the members of the Atomic Energy Patent Panel that some type of saving clause should be incorporated into the act, in accordance with whatever changes are otherwise made in the act.

Mr. DAVIS. I come here as chairman of the committee on atomic energy of the New York Patent Law Association. This statement that I filed is a statement of that committee.

I should say to you gentlemen that we had a subcommittee of the committee appointed, and I had the subcommittee's report. I drafted this thing and embodying that and the consensus, as I thought, of some extended discussions in the full committee.

I should like to reserve the right of any of my conferes reading this over if they don't agree to let you know.

I have been practicing patent law in New York over half a century, representing individual inventors, small business concerns, and large business concerns. I have some knowledge of the atomic energy development.

I think perhaps Senator Hickenlooper will remember that I testified before his committee before the 1946 act was passed and also worked with the staff, and I was the chairman of the Panel of the AEC from its start until about 4 or 5 years ago. At that time my own professional work had begun to spread into atomic energy and I thought I better get out of this governmental relationship.

The first item I want to speak of is section 151, although that is not so awfully important, specifically. That is the section which removes inventions of atomic weapons from the patent law. You can't have a patent in that field.

I think that is a great mistake and an unnecessary one. The general position of our committee, gentlemen—and it is an old one which you are all familiar with—is that the atomic energy art should be returned to the normal process of the patent system unless upon some specific point or points there are realistic reasons of great weight for doing otherwise, or as the lawyers would say, we think the burden of proof ought to be on the person that is going to depart from the patent system.

It is from that position that I want to speak of these several items.

To be sure, patents on atomic weapons, as Mr. Ooms has pointed out, don't amount to much as patents because of the fact that the Federal Government is the principal buyer. Although I have known Bill Ooms for many years, and admire him very much, I think he somewhat overstated that.

In the first place, it is not necessarily true, and it is hardly likely to continue to be true that the only customer of an American manufacturer of atomic weapons would be the United States. But assume that it did remain true, there is no occasion for any further protection of the United States than the provisions of the act that gives the Court of Claims the jurisdiction to award damages or complete compensation but prohibits any injunctions, so that neither the Government nor its contractors or supply people can be stopped from using any invention.

It has been said, "Well, then, why not say no patents?"

My answer, gentlemen, has a certain psychological twist but I assure you it comes from extended experience. I would like to be able to picture to you what an inventor really is, as an individual.

He is an individual like you and me. He has a family or he hopes to have. He knows he is going to have to support them. He has to pay his taxes, he would like to improve his standard of living. He has all those human characteristics.

But he has this idea, a creative idea, or he thinks it is. He is filled with passion for that idea. Completed inventions don't come to inventors without creative effort, the way completed babies come with the stork. They have to be worked for, developed.

What happens is these inventors devote their lives to this work, often too much so. But they do it anyway. Their hope for reward—that is, for improving their standard of living and justifying what they have done to their families—that hope rests in the fruits of this invention. They naturally think very highly of the possibilities of those fruits.

But that is what they want. If you go to a man who has some idea in atomic weapons, and he said, "I am going to devote my life to this, patentable in its nature." But, you say to him, there is no patent law in atomic weapons. You say to him, "That is all right, Tom, don't worry about that; it doesn't make any difference. Nobody but the Government is going to buy your thing anyway, and besides that, they have set up in Washington in the Atomic Energy Commission a Board which will make you an award."

I know what he would say. He would say, "No, I want a chance to bargain with the United States and I want to have in my hands the right that is provided by the Constitution that if I have a patentable invention—that would be his way of putting it—I want to have that in my hand to bargain with. I don't want any award. I don't want a ribbon pinned on to me at all. It is all right for Russia. That is the way they do, but we don't like those things here." I am sure that would be the response.

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was the originator of the Holland submarine, the prototype of all modern submarines. At that time they were starting the thing. There was a period about 1910 with Isaac L. Rice, the head of the company, a very remarkable man, when he had borrowed $21 million for the Electric Boat Co. That was a lot of money in 1910. He did it on his own personality, to be sure, but he could not do it without the patent rights that we had built up. That is true in any big or little organization that is starting out.

I am saying all this not that I think you gentlemen belittle in any sense the benefits and value of the patent system. I know you don't. But trying to put some life into it and vivid color to it is the reason I am saying this, because I have had the experience of meeting these people.

I think as to 151 there is no real reason why they ever should have said that no patent will be granted. It came out, gentlemen, in the original act, and when we all worked on the original act the situation was very different. Everything was weapons. Nobody knew what the thing was or what its possibilities were.

I regard the act of 1946 as one of the finest legislative enactments of our period. It has been a great success. But the Congress had the foresight at that time to say: "This is temporary. When we know more about the peaceful uses we are going to look it over again"; and so they did.

So our suggestion on that is that section 151 ought to be left out and patents on atomic weapons should be patentable even though the only customer was the United States, and let the poor inventor say: "At least, I have a patent and I want to bargain with a patent in my hand." Even though he knows he can't stop governmental use of it, nevertheless he knows that the Government is going to be obliged to pay him and if he is not satisfied with the bargain he can go to the Court of Claims. That costs money.

I know inventors—in fact, I have a couple right now—that are in the Court of Claims, not on their own financing but because their invention has been so widely used by the Government and others that they were able to raise the money to finance this litigation.

Mr. TOLL. Sir, may I ask you a question on that point?

Mr. DAVIS. Yes, sir.

Mr. TOLL. Yesterday the AEC testified that, if the inventor were to sue on his atomic weapon invention in the Court of Claims, the Court of Claims could dismiss the suit on the defense of secrecy and therefore the inventor of an atomic weapon would be left without a remedy, and his invention on the weapon would be worth nothing.

Therefore, it was the Commission's point of view that the award system provided him a better remedy than the possibility of making an invention on a weapon which will always necessarily be classified information.

Could you comment on that, sir?

Mr. DAVIS. Yes. My comment would be that if I had been the AEC or Mr. Anderson, for whom I have great respect, I would have said: "We are going to ask the Congress to give the Court of Claims the power to hear these secret things in the same sense that the district court could have."

I am not sure if that interpretation would be stuck to by the court or not, but, if it did, then I think the AEC ought to be pressing the Congress to have it removed.

The next item is 151(c). I have not much to say about that. That is the reporting subsection. It includes the same subject matter as in subsections (a) and (b); that is, atomic weapons. It also includes—and I always thought by inadvertence, although there may be people who don't think so—the inventions useful in the production or utilization of nuclear material or atomic energy. That phrase, gentlemen, is impossible to administer. I know that because I sat on the panel of the AEC for years with that, or a similar phrase, and we tried and tried to define what was an invention useful in the production or utilization of nuclear material or atomic energy, and nobody ever could do it. As a matter of fact, that is the reason that the language was taken out of sections (a) and (b). We think it should be taken out of section (c). It can't be administered. Nobody has ever tried to administer it.

There is another reason that it can't be administered, and that is that section (c) says that the inventor shall make his report of his invention and he can't get an award unless he has done so.

When is he going to make it? Within 90 days, or I think they now say 180 days, after he completes the invention or first discovers that it is useful in the manner expressed in the statute. No inventor knows when that date is. He has to have a pretty good experienced lawyer on giving him an opinion on what amounts to the completion of an invention. The lawyer would say it certainly is not completed until it is reduced to practice, either actually or the so-called constructive reduction to practice of filing a patent application.

So the lawyer would say to him, you don't need to report that until you have either filed a patent application or reduced it to practice. It is not very easy to reduce an important invention in atomic energy to practice. If you can get the material to do it you have to get a lot of money to handle it.

Still that makes this section unadministerable.

Representative HOLIFIELD. Unless it is interpreted, as it has been in actual practice, as being at that time when the inventor establishes his prior knowledge of the matter or when he makes his application for the invention. It has been generally interpreted, I think, to mean that.

Mr. DAVIS. I think so, too, Mr. Chairman.

Representative HOLIFIELD. Therefore, while the interpretation may be challenged, yet as a matter of fact they have operated under this language, it seems.

Mr. DAVIS. I don't think anybody has been denied an award because he didn't report. Mr. Chairman, I would not disagree with what you just said except to this extent: You say either when he has made his invention or completed his invention or acquired the knowledge. The state of law on that subject is quite in confusion. The authority which we all go by is an early Supreme Court case which held that knowledge, not known or used by others under the statute, meant knowledge of the completed invention, that is, of a reduction to practice.

Then the Supreme Court held in the Chemical case that it had been described in the patent application and that application subsequently became a patent, so it reached the public then you could go back to the filing date and that was knowledge.

The same question arises in connection with this secret knowledge in the Commission, that section which deals with that. Because what is secret knowledge in the Commission? Is it just somebody's idea? They certainly would say no. We couldn't defeat a patent on the ground that somebody wrote us a letter and said I think it would be a good thing to do so, and they got an idea of doing it this way.

I am sure Mr. Anderson would say that no, that means when there has been a knowledge which satisfies the law of patents as to anticipatory knowledge. If I said to him, what is that, Andy? He would say, don't ask me, Bill. You are able to answer as well as I am, because it is an undecided question.

So much for that subsection (c).

If that phrase which I object to, which I think was left inadvertently, was taken out then there would be nothing left to that section (c) because all the rest is already covered in (a) and (b).

Now, section 152, which to my mind is the really serious thing we are here about. I say that because 151 or 153, the compulsory license section, do not cause the trouble that this section 152 causes. It has become so because atomic energy has now moved into the field of an important useful art and out of the field of weaponry. Everybody now knows that. It certainly should have, since the declared policy of Congress with respect to the Atomic Energy Act is to advance the progress, improve the general welfare, increase the standard of living and strengthen free competition in private entreprise—I think no one here has any doubt that the patent system is an implement and an advantage in doing just those things.

Now we come along with this section 152 which provides that inventions useful in the production or utilization of special nuclear material or atomic energy. There again is a phrase that is undefined. What is useful in atomic energy? Made or conceived under any contract, and so forth?

I understand that it is now proposed to improve the language of that by taking out the phrase that has been objected to "or other relationship" and substituting more definite phraseology.

I would be all in favor of making those changes in that proposed act if I were not opposed to the whole provision. It would improve it but it would not make it a respectable member of society. For this reason, gentlemen, it is this provision in the act, the uncertainty of it and the unnecessity of it, that makes it impossible for a big enterprise in America that wants to engage in private developments in the field of atomic energy to take a contract with the Government in atomic energy.

Any number of these big companies have recently withdrawn from the field of Government contracting.

Representative WESTLAND. Mr. Chairman, could I interrupt there?

Representative HOLIFIELD. Mr. Westland.

Representative WESTLAND. Could you document that in any way, Mr. Davis, to be specific?

Mr. DAVIS. Yes, I can. I could give you the names that have been given to me by a client of three large concerns that have recently withdrawn from that field. I am sure I could give you others. If you would like I will do that when I get back home where I can get the documentation. I don't like to give those names here.

Representative HOLIFIELD. Mr. Davis, if you can furnish those names, we will be glad to have them.

Representative WESTLAND. I would be very much interested in them.

Representative HOLIFIELD. Will you furnish them to us later and we will file them with the committee?

Mr. DAVIS. I will do that.

Representative HOLIFIELD. I might say if you have any reluctance I am sure Mr. Westland nor any member of the committee would impose upon you an embarrassing request. You might want to check with the companies.

Mr. DAVIS. Certainly. What I will do, Mr. Chairman, is to go to this source that I was on the telephone with yesterday and was assured that this company itself and these other two big companies were out of the field.

Representative HOLIFIELD. We know of companies that have withdrawn from certain fields. There has been evidence brought to us that the reason was that they felt there was no immediate opportunity for profit in the field.

Mr. DAVIS. That is true. I will try to get the statement that the reason was that they didn't dare to risk their own private positions, own patent positions, or that at any rate was an important factor in the decision.

Representative HOLIFIELD. We have informed all of these industrial people who have been contracting in the field and given them an opportunity to come forward and testify, and very few, if any, have taken advantage of it. This indicates to the committee a certain lack of interest on their part in this subject.

Mr. DAVIS. I don't want to start anything, Mr. Chairman, but I would suppose that Mr. Anderson would have better information on this than I have. At any rate as the thing stands, unless you say otherwise, I am going to get these names, communicate with the parties, find out if they tell me this factor was an important factor in their withdrawal and let the committee know.

Representative HOLIFIELD. Thank you.

Mr. DAVIS. To go on with the same 153, the effect is to bring into the ownership of the U.S. Government a great many patents. While I am not a socialist by any means, and I have the greatest respect for the fact that this Joint Committee is in a sense the trustee for the people of the United States of the vast sums of money that have been expended in this field, I can understand the concern of the Members of Congress on that score, yet the way to discharge that trust is not to accumulate patents in the ownership of the U.S. Government. A patent owned by the U.S. Government is no longer a patent. I have been through this thing. I have been through it in the First World War here in Washington, next with the Alien Property Custodian, I went through it with the Second World War, and I say to you that the U.S. Government never has and never will exercise the right to exclude one of its citizens from a patent right.

Representative HOLIFIELD. You wouldn't expect them to, would you, if they used tax funds to develop that device or that technique? In justice to the Nation they should make that available to all of the people.

Mr. DAVIS. Certainly, otherwise the taxpayer will come to you and say why do you leave me out, I pay taxes.

Representative HOLIFIELD. By the same token if they use research and development money to establish an art as they have in this field, would it not also go unjust and discriminatory if they allowed those few people that participated in the contracts to reap the benefit of the Government's expenditure to the exclusion of another section of industry?

Mr. DAVIS. That is another angle of it. I will come to that in a minute.

Let me answer the first part of your question first. Of course, the inventions that the U.S. Government has paid for, it ought to own. Certainly nobody else ought to own them. There should be no right of exclsuion at all with respect to those inventions. But the question is what patent rights should the United States acquire from the money it spends?

I say that there is an established rule of law on the subject set forth by the Supreme Court in great detail by the Dubilier case that has been the practice of the Defense Department for many years. And while there are other departments of the Government that have different practices, they are relatively unimportant. That rule, as you all know, depends on what the man was hired for.

Someone asked the question along that line. It depends on what a man is hired for, if you hire a man to make an invention, to solve a problem, do research, the Government does what industry does. They put him under contract to assign his inventions to them. That is what he hired and paid for.

If, on the other hand, he is a worker in the shop, and it happens that the shop is involved in the work of the Government or work in hand in the contractor's plant and he makes an invention, even though in a sense that it grows out of the work that he is doing, it doesn't belong to the employer unless there is a special contract. The employer has a shop right.

Representative HOLIFIELD. And most employers do have such contracts.

Mr. DAVIS. They have only limited ones, Mr. Chairman.

Representative HOLIFIELD. I think it is customary in most of these large corporations who do research and development work to require the employees to sign certain forms in which they subrogate their rights to inventions to their employer. At least I have talked with many scientists who have told me that.

Mr. DAVIS. I think I can answer you on the subject. Perhaps I should say you are right as far as it goes. They all do have forms of contracts. All that I know of have different forms depending on the level of employment. Some of the smaller companies extend it all the way down.

I had to study the subject, Mr. Chairman, when I was Chairman of the War Labor Board because the unions raised the point that it was unfair to force this contract on their members when the members

were not hired to make inventions but were hired to work a press, or something like that. I had a lot of experience with it at any rate.

My brother was the head of the patent department of the General Electric Co. for many years, and he and I went over the employment contracts many times. It depends on how far down you go.

What we say is, Why don't you leave the rights of the Government to the law as it stands—the Dubilier case—and if the Commission feels, in any particular case, in any particular contracts, they ought to have more than the rights of the established law, then let them put into the contract the additional provision and let the contractor have a chance to bargain on it. That would be our advice. Leave it to the law, with the understanding that the Commission has the power, as the act now provides, perhaps unnecessarily, to require these things in their contracts.

Indeed it has been suggested, Mr. Chairman, that this right of release or waiver should be exercised by the Commission by saying that we will waive it in all cases except those cases in which it is covered by the contract, which is a roundabout way of getting back to the front door.

I would say leave it to the law with the understanding that the Commission can, if need be, make a contract.

Representative HOLIFIELD. Mr. Davis, may the Chair ask you to proceed as expeditiously as possible. We want to get four more witnesses in the next 2 hours.

Mr. DAVIS. You certainly may, Mr. Chairman. I appreciate your tolerance already. I only have one more point, and it won't take 5 minutes, and that is the compulsory license clause.

We are in favor of abolishing that, and we base the position on the Activated Sludge case. That is the rule of law, that an injunction which is an equitable remedy, is within the discretion of the court and that the court weighs the equities.

There is a whole series of cases in our books in which the court has refused to issue the injunction where the public interest would be adversely affected. I tried 50 years ago in a big law office in New York to get an injunction on a sustained patent against the trolley cars across the Brooklyn Bridge. The court said your patent is all right, you can get damages, but you cannot shut down the trolley cars across the Brooklyn Bridge.

If this Congress feels that law is not sufficiently explicit, then our suggestion is that we enact a law to the effect that a finding by the AEC in conformity with the very carefully worked out conditions and limitations of 153, if the AEC makes that finding, then that finding will be taken as prima facie evidence in any court of competent jurisdiction that an injunction shall not issue. I think you will have all the protection you will need on that.

I am not going to take up any further time with the unimportant things that are mentioned toward the end of our paper.

I thank you very much indeed.

Representative HOLIFIELD. Mr. Davis, the Chair wishes to express on behalf of this committee our appreciation of your coming down from New York and being a witness before us. We certainly know of your very extensive background in this field and your testimony will be very carefully considered.

Mr. DAVIS. Thank you, Mr. Chairman.

Representative HOLIFIELD. Senator Hickenlooper.

Senator HICKENLOOPER. I have a question on one phase of your testimony, Mr. Davis, and that is the matter of patents on weapons. That is, the exclusive right of the United States to an invention or to rights in an invention, or the denial to the inventor of an exclusive patent right in weapons. I want to see if I understand your position.

Up until the present time it might be said that practically no inventors who are not working in a weapons program, as a part of that development, have very much opportunity to make inventions in connection with atomic weapons. I think that is practically true. There may be some slight variation to that.

I also understand that you feel in the unknown field of tomorrow—and nobody knows what will develop tomorrow—there is a principle involved that at some time the individual who is not associated with weapons development for the Government may have occasion to make an invention which is in effect a weapon but without Government assistance or without participating in a Government program for weapon development.

You feel that person should be protected in that invention and have the right to a patent on it; is that correct?

Mr. DAVIS. That is correct, Senator.

Senator HICKENLOOPER. May I go just a step further by way of an illustration. Probably the greatest efforts in the world so far as weapons are concerned have been devoted by governments. Governments want to develop rifles, they want to develop cannon, and various other kinds of missile-throwing devices of a weapon character, and yet we have not made the right to the invention of a gun the exclusive property of the Government. In other words, a person can go out today and invent a new or different adaptation of a rifle or pistol, which is a weapon, and which can be used in war, and we allow him to have his patent protection on that arm which could be a military weapon or which could be a weapon for civilian use.

Is that roughly the situation, that there may come a time when the individual may be able to invent things that could be used as weapons independently of Government support?

Mr. DAVIS. Yes. Senator, experience has shown that the great inventions usually come from people who don't know anything about the industry or the art. They come from outside of the art. I could give you many instances. What you say nevertheless is quite correct.

Take the Holland submarine, for instance. I knew Holland and what he went through in New York Harbor to get that idea started. Everybody thought he was crazy. They wrote these articles about rolling on McGinty's lawn, and so forth, and about his submarine. I don't know whether you are old enough to remember the song. "Down went McGinty to the bottom of the sea," but that is what the reference was.

Senator HICKENLOOPER. Yes, indeed.

Mr. DAVIS. Take this instrument that we use for aiming the bombs out of an airplane all through the war—a most complicated instrument, a beautiful instrument, and we kept it secret until some of our planes got shot down and the Germans got some of them—there was an invention that grew up under the patent system. I don't know anything about the patents on it.

Senator HICKENLOOPER. I am told, I believe reliably, that the recoilless gun was invented—perhaps not invented, I don't know, but was developed—by a man back in about 1902, and that it was tested by the Navy at Guantanamo along about that time. That is, the principle of the recoilless gun. Yet this man, according to my information, had never worked for the Government nor had ever served in the Armed Forces. He was a complete outsider, but he did have the recoilles gun. It is rather interesting that it didn't come into operation until World War II. Nevertheless, there it was, and it was invented by somebody who had nothing to do with the military or the Defense Establishment.

Mr. DAVIS. I could tell you some awfully good stories on that same line, but I haven't got time.

Senator HICKENLOOPER. There are a number of them. I think I get your point. I think you have made a point that deserves consideration.

Mr. DAVIS. Thank you, sir.

Representative HOLIFIELD. The next witness is Mr. Alex Radin, American Public Power Association. Mr. Grahl, you are representing Mr. Radin today?

Mr. GRAHL. Yes, I am.

STATEMENT OF JAMES L. GRAHL, DIRECTOR OF THE ATOMIC ENERGY COMMITTEE, AMERICAN PUBLIC POWER ASSOCIATION, WASHINGTON, D.C.

Representative HOLIFIELD. Is there any way you can cooperate with the committee and summarize your testimoney, in view of the time element?

Mr. GRAHL. Yes, sir. I think the whole statement will take about 10 minutes. Is that too long?

Representative HOLIFIELD. You may proceed.

Mr. GRAHL. Mr. Chairman and members of the committee, my name is James L. Grahl. I am director of the Atomic Energy Service and assistanst general manager of the American Public Power Association. The association is a national service organization representing more than 1,000 local publicly owned electric utilities—municipally owned systems, public utility districts, and State agencies—in 43 States and Puerto Rico.

The American Public Power Association has a direct interest in patent policies in the atomic power field because of their potential effects on the rate of atomic power development and on the costs of atomic power equipment. We have consistently supported policies which in our judgment would encourage the wide dissemination of information on atomic power technology, subject to necessary security restrictions, and the development of a vigorously competitive nuclear power equipment and engineering industry.

The latest expression of our views was the statement submitted to the Atomic Energy Commission on April 10, 1958, by Alex Radin, general manager of the association. This statement is reproduced in volume I, page 168 and following, of the Joint Committee print "Selected Materials on Atomic Energy Patents."

The association believes that any patentable inventions developed because of publicly financed programs should be in the public domain, with no special advantage accruing to any Atomic Energy Commission contractor or other private interest. This policy seems the most equitable one from the standpoint of the general public which is paying the bill, and at the same time it enables the Commission to make available to all citizens and industries the information on the discoveries and inventions arising out of publicly financed research and development. It avoids the granting of special patent privileges to a relatively few select AEC contractors and makes possible widespread participation in the development and utilization of atomic energy for peaceful purposes. The policy thus stimulates and accelerates the development of atomic power technology by private enterprise under conditions conducive to free competition.

This association consequently supports a continuation of the general policy on inventions conceived during Commission contracts as established in section 152 of the Atomic Energy Act of 1954. The contrary policy which some have proposed, of vesting patent rights in the contractors, would seem to be clearly inequitable to the general public and to much of industry. Furthermore, we note that Mr. Roland Anderson, Chief of the Patents Branch of the Atomic Energy Commission, has stated that such a policy "would not advance the civilian scientific and industrial progress to the extent of the directive in the Atomic Energy Act" because it would inhibit seriously the widespread dissemination of technological information and the extensive use of inventions developed with public funds.

As we understand the amendments to section 152 recommended by the Commission in its draft bill of March 16, 1959, they would clarify certain phraseology in the section without altering the substantive policy.

We do question the desirability of the phrase in the first paragraph of section 152 which reads, as AEC would amend it—

except that the Commission may waive its claim to any such invention or discovery under such circumstances as the Commission may deem appropriate.

This language would continue to vest in the Commission the sweeping and unrestricted discretion provided in the present act to waive the Government's rights to inventions and discoveries which the rest of section 152 is at great pains to establish. This does not appear to be desirable legislative procedure. Having established the Government's rights, the act should authorize AEC to waive them, if at all, only in accordance with legislative standards or criteria which provide the Commission with reasonably clear guidance as to congressional intent.

AEC now has had several years of experience with the Atomic Energy Act of 1954 and with the administration of section 152 and has designated certain areas in which it has waived the Government's rights to inventions and discoveries.

According to the statement of Mr. Roland Anderson in the Joint Committee print, at page 140, the Commission by regulation has waived patent rights as to invention resulting from the sale, distribution, or use of isotopes and from access permits, and has ruled that licensees are not within the purview of section 152. We recommend that on the basis of this experience the Joint Committee and the Con-

gress, perhaps with the assistance of the Commission, establish criteria in an amended section 152 to guide and limit AEC's discretionary power to waive rights so as to assure that the intent of section 152 cannot be eroded away by future administrative rulings.

The association continues to support extending the period of time during which the Atomic Energy Commission can require the licensing of privately owned patents, with reasonable compensation, when this is found to be in the public interest. In 1954, our association believed that the 1959 expiration date in the present act would prove to be premature. It is now clear that the possibilities in future years for very important inventions and patents in the fission power field will be very substantial, ranging from improvements like nuclear superheating in present reactor types to direct thermo-electric converters. We believe that this situation will still be true as of September 1, 1964, particularly when it is considered that section 153 applies also to the field of the controlled thermonuclear reaction.

For these reasons, and because there is no way to predict with reasonable assurance a particular date by which AEC's compulsory licensing power will become unnecessary, we recommend an indefinite extension of this power, with no terminal date specified in the law. The language of section 153 is such that it automatically will be inoperative as to new patents when inventions or discoveries of primary importance are no longer being made. In any event, whenever the atomic power industry develops to the point that AEC's compulsory licensing authority becomes unnecessary, the law could be amended to eliminate it.

The alternative, of establishing a specific terminal date in the law, would seem to have the possible disadvantage of encouraging corporations to delay the filing of patent applications with the expectation of filing them after the terminal date. Any such delays postpone the disclosure of information which attends the granting of a patent and would tend to slow technical progress in the field. More important, any such deliberate delays could frustrate, possibly for important patents, the purposes of section 153.

We support extension of AEC's compulsory patent licensing authority because of the interest of our member utilities, as potential customers, in the development of a freely competitive private atomic power equipment industry. This is of obvious importance in making rapid progress toward economic plants and in achieving healthy industrial competition on prices and performance once nuclear power equipment becomes a normal commercial product.

The danger to free competition which would be posed by unregulated patent monopolies is not a theoretical question. In an address on January 24, 1957, the then U.S. Attorney General Herbert Brownell stated:

> It is in the area of licensing and patents that the extent of competition in civilian development of atomic energy will largely be determined.

He also noted that:

> We have here an opportunity to utilize preventive rather than merely remedial action. We must act to prevent anticompetitive tendencies before they mature into monopolistic patterns.

Our support for an indefinite extension of section 153 therefore reflects a belief that it not only represents a protection for the utility

industry against the possible development of a monopolistic, administered price atomic power equipment industry, but also constitutes a basic protection to the equipment firms against domination by one or a few giants through unregulated control over key patents.

AEC's compulsory patent licensing authority is severely limited and so would not appear to affect adversely private rights in patents and the benefits flowing therefrom except in rare cases where the rights were exercised in a manner clearly inimical to the public interest. This type of reserve power, as AEC describes it, seems a minimum protection and a reasonable provision to be established for an indefinite period.

Accordingly, the association endorses the extension of AEC's compulsory patent licensing authority as proposed by H.R. 5846, introduced by Representative Chet Holifield, and S. 1652, introduced by Senator Albert Gore, and by AEC's draft bill of March 16, but we would recommend further modification of these proposals to eliminate any specific termination date.

Thank you very much for this opportunity to express the views of our association.

Mr. Chairman, I would like to request also that you include in the record at the end of my statement a resolution on patent policy which was adopted by our association at their latest membership meeting, in 1958.

Representative HOLIFIELD. Without objection, it shall be included.

(The resolution referred to follows:)

RESOLUTION NO. 23—PATENT LICENSING IN ATOMIC ENERGY FIELD

Whereas the provisions in the Atomic Energy Act of 1954, which authorize the Government to compel the cross-licensing of privately owned patents in the atomic energy field when this is found to be in the public interest, with reasonable compensation to the patent owner, will expire for patents applied for after September 1, 1959; and

Whereas the technology of atomic power is still in its early stages and obviously will continue to be in a stage of active and rapid development for many years; and

Whereas it appears probable that the atomic power equipment manufacturing industry will become a major and basic industry in this country; and

Whereas the bulk of the research and technological development has been carried on and developed to date at public expense and it appears that this will continue to be true for some years; and

Whereas the provisions for compulsory cross-licensing of atomic energy patents apply also to the new and potentially extremely important field of controlled fusion power, which is at the beginning of what is predicted will be a 20-year period of research, scientific and technological development; and

Whereas in the absence of a reserve power by the Government to compel cross-licensing with reasonable compensation there will be opportunities after September 1, 1959, for the development of unregulated private patent monopolies which could seriously and adversely affect the development of low-cost atomic power from the fission or fusion reactions: Now, therefore, be it

Resolved, That the American Public Power Association urges the Congress to amend the Atomic Energy Act of 1954, and specifically section 153 h. of that act, to extend the Government's authority to compel the cross-licensing of privately owned patents in the atomic energy field for an indefinite period, or at least to September 1969, and to simplify and strengthen the patent cross-licensing provisions of that act.

Mr. GRAHL. I thank you very much for this opportunity.

Representative HOLIFIELD. Thank you.

The next witness is Mr. Elwin A. Andrus of the American Bar Association.

STATEMENT OF ELWIN A. ANDRUS, CHAIRMAN, SECTION OF PATENT, TRADEMARK, AND COPYRIGHT LAW, AMERICAN BAR ASSOCIATION

Mr. ANDRUS. My name is Elwin A. Andrus and I am a resident of Milwaukee, Wis. I am appearing before the Joint Committee on Atomic Energy today as chairman of the Section of Patent, Trademark and Copyright Law of the American Bar Association to present a statement of the position of the American Bar Association with respect to the provisions of sections 152 and 153 of the Atomic Energy Act of 1954.

The view of the American Bar Association with respect to patent rights arising out of Government sponsored research and development contracts is set forth in the following resolution passed by the House of Delegates of the American Bar Association, February 1959:

Resolved, That the American Bar Association approves the retention by a contractor of full title to all patent rights arising out of research or development contracts sponsored primarily for Government use by any governmental department, agency, or the like, subject only to a royalty-free, nonexclusive license to the Government for governmental purposes, but not to enable the Government to furnish services and supplies to the public in competition with a contractor and its licensees.

There appears to be no reason, in the present state of development of the atomic field, why this principle should not be applied to inventions in this area.

Reasons supporting the position of the American Bar Association, and more specifically, the application of this principle to the atomic energy field, include the following:

1. Probability of ultimate decrease in cost of governmental research and development work in this field.

2. Incentive to the best qualified contractors to become more interested in doing governmental research and development in this field; patent rights afford incentive beyond monetary rewards.

3. Encouragement of more widespread and effective filing of foreign applications.

4. Particular benefits to small business, which in many cases is quite dependent upon adequate patent protection.

5. Assuring the Government all the rights it needs for its purposes, while enabling the Government to avoid a number of problems, such as filing and prosecuting of applications, consideration of the nature of licenses granted, and so forth.

Whatever may have been the justification in 1946 for treating atomic energy inventions as something requiring special handling and whatever justification there may have been in 1954 for the somewhat modified provisions of the Atomic Energy Act of 1954, it is believed that this justification no longer exists. The present atomic energy patent policy is no longer a satisfactory approach for its stifles private capital's initiative and participation in the mushrooming field of development which is, and will continue to be, of importance to mankind and to the property of those nations which best exploit it. Past experience proves that the normal operation of the patent system most contributes to the exploitation of any given field and this system should have increased opportunity for normal operation in the atomic energy field.

The first sentence of section 152 of the Atomic Energy Act of 1954 is in conflict with the position of the American Bar Association as set forth in the resolution quoted above. Deletion of this sentence would enable the Atomic Energy Commission to negotiate with contractors on a basis at least approaching that of the Department of Defense, thus fostering a greater uniformity among the Government agencies with respect to the provisions of research and development contracts.

Section 153 of the Atomic Energy Act of 1954 provides for compulsory licensing. The American Bar Association has consistently opposed compulsory licensing.

While compulsory licensing has been a part of the law of some foreign countries, it is the essentially universal view of American practitioners that exploitation is best encouraged by the exclusive grant for a limited period in accordance with the wise choice made by the framers of the Constitution. If initially this requirement of the Atomic Energy Act was felt to be justified by the fear of broad monopolies in the hands of a few atomic energy pioneers, and particularly in the hands of those who had done wartime research for Government, the extent to which atomic energy development has now spread in industry and the number of companies involved therein should substantially erase that fear.

It would be consistent with the position of the American Bar Association that section 153 of the Atomic Energy Act of 1954 be deleted in its entirety. Some 5 years ago when the Atomic Energy Act of 1954 was passed, the Congress itself apparently felt that this provision should be reconsidered at the end of 5 years. If the Congress, upon evidence submitted by the Atomic Energy Commission and industry, feels that this provision should be retained for a limited period of time, the period of extension should certainly be less than the 5-year period involved in the Atomic Energy Act of 1954, to insure review and reconsideration of this matter within such more limited period.

I thank you.

Representative HOLIFIELD. Thank you very much.

Are there any questions from the Senator or from the staff? If not, thank you very much for your statement.

Mr. ANDRUS. Thank you, sir.

Representative HOLIFIELD. Our next witness is Mr. Richard Whiting, American Patent Law Association.

STATEMENT OF RICHARD WHITING, AMERICAN PATENT LAW ASSOCIATION

Mr. WHITING. Thank you, sir.

Representative HOLIFIELD. Are there copies of your statement?

Mr. WHITING. Yes, sir. My name is Richard Whiting. I represent the American Patent Law Association which is of the view that the time has arrived for the return of inventions in the atomic energy field to the normal operation of the patent system. The association alternatively is proposing in its memorandum which I have filed certain changes in the act if you gentlemen do not feel that the time is ripe for outright repeal of chapter 13. But its great preference is for outright repeal of the patent provisions.

I am not going into details of the statement because time is short. I would like, however, if I may, just to express a few thoughts that occurred to me about what the law, as I understand it, would be controlling the Commission and atomic energy inventions in the event that the chapter were repealed and matters were left in that state.

First, as Mr. Davis has said, and very well, and I shall not repeat it, is the nature of the patent grant which is the right to exclude others from making, using or selling an invention. The patent grant does not convey the right to make, use or sell the invention, but only the right to exclude others. Any inventor at common law had the right to use, sell, and make his own invention. The only reason we have the patent system is to clothe that right with the right to exclude others from making, using, or selling. It is that exclusiveness, or the right to exclude, which is the incentive to the inventor, and the inducement to the investor.

That right to exclude does not apply to the Government. It is a sovereign right of immunity to be free of tort liability, except where the Government consents to be liable. In this instance there has been a limited consent to liability for reimbursement compensation to the inventor for the manufacture or the utilization of the invention. But that does not give the right to exclude the Government. That provision of our law has been carefully thought out. It started in 1910. It was amended in 1918 during the First World War to add the word "entire," so that the policy of the statute would expressly show that the entire compensation was to come from the Government, not from the contractors, which was the idea, because contractors during the First World War—some of them—were afraid of the patent liability, and that caused that amendment to be entered into the statute to make it abundantly clear that there was not an alternative remedy against the contractor or alternatively against the Government.

The act was amended in 1918. In 1943, it was amended again to make the act expressly applicable to subcontractors or to anyone who manufactures or sells to the Government or does anything with the authorization or the consent of the Government.

Then the act was amended in 1955. The only reason I am going into this is simply to say that first we have the right to exclude, but it does not apply against the Government, and the statute that is applicable to the determination of compensation for the use by the Government of inventions is very carefully considered and has been on our statute books for a long time, and is applicable to the Defense Department and to the Government in all its departments.

The third, and this is the last statute I want to refer to, is the Inventions Secrecy Act. That is title 35, United States Code, sections 181 to 188. That act has only one purpose, and that purpose is to safeguard the security of the United States against anything that might happen from the issuance of a patent. It gives the Government the right to step in, in the event that there is an invention the issuance of a patent for which would affect the security of the United States. It is not just the Government generally, but it is expressly the Atomic Energy Commission. The statute says in section 181:

> If in the opinion of the Atomic Energy Commission, the Secretary of the Defense Department, or the chief officer of another department or agency so designated, the publication or disclosure of the invention by the granting of a patent therefor would be detrimental to the national security, the Atomic Energy

Commission, the Secretary of the Defense Department, or such other chief officer shall notify the Commissioner, and the Commissioner shall order that the invention be kept secret, and shall withhold the grant of a patent for such period as the national interest requires, and notify the applicant thereof.

So it is expressly applicable to the Atomic Energy Commission.

Then at the end in section 188 of the law, it is stated:

The Atomic Energy Commission, Secretary of the Defense Department—

and then it goes on and says—

may separately issue rules and regulations to enable the respective department or agency to carry out the provisions of this Act.

Those are the three statutory provisions that I wanted to refer to. There is just one other matter that I think should be given careful consideration, and that is the practice of the Defense Department to handle the patent aspects of its procurement by rules and regulations self imposed on the Defense Department, rather than by statute.

Representative HOLIFIELD. Would I be right in saying that under the Defense Department procedure, the so-called Defense patent clause which is a customary clause in defense contracts, that the Government has furnished hundreds of millions of dollars for research and development to private organizations, and as a result of that they have been allowed to go out and obtain patents which have arisen as a result of the expenditure of Government money which inured to their particular financial benefit, and not to the rest of industry?

Mr. WHITING. I am certainly not qualified to answer that question statistically. I don't know.

Representative HOLIFIELD. You know that we engage in something like $40 billion worth of defense expenditures a year.

Mr. WHITING. Yes.

Representative HOLIFIELD. A considerable part, running into many millions of dollars, is in the field of research and development contracts.

Mr. WHITING. Yes.

Representative HOLIFIELD. If those research and development contracts are given out by the Defense Department, it usually has its so-called clause C patent formula in it which says in effect that any patentable area which may be developed as a result of the use of these funds shall be available to the contractor for his private patent filing with the exception, of course, that the Government may always use that particular process or hardware or technique, whatever it may be that is patentable for the Government's exclusive use, but that the Government cannot transfer that to another industry or another private individual. That is in effect in layman's terms the provisions of it.

Mr. WHITING. Yes.

Representative HOLIFIELD. So under that well established procedure, I base my question: As a result of that companies having these tremendous contracts have been able to benefit in a discriminatory way—I am saying discriminatory way against the rest of industry—as the result of the expenditure of public moneys.

Mr. WHITING. My feeling about that is this——

Representative HOLIFIELD. It may be justified or not, but I think my question is pointed to the facts.

Mr. WHITING. Yes. My feeling about it is this: In the first place, I have a very serious question, and I think it has been answered by the experience of the Defense Department, as far as I know, whether many of the contracts would be placed if it were not for the inducement of those conditions. That is the first thing. I don't think that in many instances contractors would place their contracts with the Government if the Government was going to take the entire right, title, and interest to patents to any invention that was made during the performance of the contract.

Representative HOLIFIELD. I do not care to engage in controversy with you, but the AEC has had no trouble in spending something like $15 billion under that type of arrangement.

Mr. WHITING. I can't answer as to that, sir. If I may say this, I have had a little background of experience on it as far as the Defense Department was concerned. During the war I was with the Navy in a patent position and at the end of the war I was the general patent counsel for the Navy. Then later I was consultant to the Defense Department, working on the Armed Services Procurement Regulations, section 9, patents and technical data, which includes that clause that you refer to.

In my work as consultant at that time—and I only bring that background out because I think it is pertinent to the answer to your question—I had occasion to consult with many members of industry and many industrial associations and officials of many companies, not only manufacturing companies, but people engaged in research, and I had very definitely the idea from talking to them—and it was confirmed by my talks with some individuals in the Defense Department who were on the other side of the fence and were trying to negotiate contracts—that that plum of patent rights on the commercial side was an inducement to the taking of a contract at a lower rate than the Government would have been willing to pay for it. It seemed a sound policy to have it that way because what good would the patent have done the Government as contrasted with the license for governmental purposes that it got under the presently existing regulations? The Government would not have been any better off.

Mr. TOLL. It is not that it would have done the Government any good. It is only that it would have allowed other industries the opportunity to use this technology and these inventions.

Mr. WHITING. Yes. It would have laid it open so that there would have been no monopoly in that at all. That is what you are regarding as discriminatory in the private commercial sense of the word. Yes; you are quite right in that, but why don't we ask industry what it wants? Does it want the discrimination? It sure does, as far as I understand.

Mr. TOLL. The AEC contractors do, but maybe those that are not in that favored circle are glad to have the technology available to them.

Mr. WHITING. The people that I talk with that you are saying would be discriminated against said let us have that discrimination. We love it. Let us have the patents. The final thing that I would like to say is this: Can't that be done not by the rigid route of a statute but by the flexible route of regulations so that the regulations can be spelled out in detail with all the necessary incidents of the give

and take of negotiation can be worked out by a lengthy procurement manual or whatever you want to call it, done by the patent representatives of the Commission on the procurement level, and not by a statute which in a few words tries to set policy and by dealing in generalizations gives rise to so much misunderstanding and dispute, as there seems to be.

Representative HOLIFIELD. I would try to answer your question by saying that negotiations on contracts under rules and regulations which are promulgated on any subject stem back to the basic statutes. If the basic statutes are not there, there would not be that particular field of regulation or the power to enforce negotiation that there is where statutes exist. The Congress, rightly or wrongly, in establishing the 1946 act, did think that it was in the public interest to establish a policy. As I say whether it is right or wrong, time will tell. In establishing that policy, we did take into consideration the peculiar circumstances which surrounded the early years of development of atomic energy, and we feel that we are still in those early years, which did give to certain—I would say as few as 11 or possibly 14 large corporations—years of access to all of the Government acquired knowledge, paid-for knowledge, all of the techniques, the Government laboratory development, and with subsequent award of many hundreds of millions of dollars of research and development funds into their own laboratories. This situation was a unique situation. It existed in this field where it did not exist in the field of automobiles or the airplane or certain other fields which did cause the Congress to decide that a policy of protection to all of industry and all of the public against the right to exclude, and limiting it only to the atomic energy application field, was the genesis of this section of the law.

It is also the genesis of the present consideration which seeks to determine whether the law should be extended for another brief period, hoping that some day we can work to the point where this industry is established on a nondiscriminatory and wide base where we can get back to the normal situation which I think most of us feel in the broad sense is desirable. So it is a matter of timing. It is a matter of consideration, fairness, and equity based on the expenditure of Federal money which concerns all of the members of the committee and the Members of Congress. This is our delegated and sworn responsibility, to guard that to the best that it is possible in our judgment. Our judgment may be right or it may be wrong. This is why we seek the testimony from those who are knowledgeable.

Mr. WHITING. The question that I come here asking really is this: Under the circumstances that we have in the background law, regulating this right to exclude which constitutes the patent, that we have these carefully thought out provisions as to compensation for Government use, so that the consideration vis-a-vis industry and the Government is a matter of long experience, and we have carefully thought out provisions for dealing with the secrecy aspect of it—you have not spoken of that and I don't know how much of that aspect of it is a matter of concern—the Invention Secrecy Act is no good at all, or it ought to apply here. Its sole purpose is to safeguard the security of the United States.

Representative HOLIFIELD. It is your position that it does safeguard the United States adequately and that it is not necessary to have the provisions in 153?

Mr. WHITING. Again I hardly would say that I could qualify to answer that question about security, but I have never seen any reason suggested why it does not adequately do it.

Representative HOLIFIELD. Does 153 go further than the secrecy act? I am not as familiar with the secrecy act as you probably are. I think there are factors in 153 which go to the point of not only Government use but compulsory cross-licensing.

Mr. WHITING. Yes, but as far as security is concerned, anyone can file a patent application for anything he wants to. The question is what is the Patent Office going to do with it? Is it going to grant a patent and let it be published so that the secret is out, or is it not going to? That is the only question as far as security is concerned.

Representative HOLIFIELD. Would you take the position that before publication and before granting a patent the Patent Office should be allowed in the normal way to go ahead and publish this, although it might give to a potential enemy a very vital factor in the making of a weapon, or do you think that the present law which requires a scrutiny by the AEC to ascertain if that really is in the Government's interest to withhold for a certain period of time from publication, which is necessary in the case of a patent publication. It is on this point of prior access to it and exercise of judgment in the national interest that we require the Patent Office to refer such applications to the AEC for the primary purpose of establishing whether it was something of vital interest to weaponry.

Mr. WHITING. I do not see anything that is added by the Atomic Energy Act or the patent provisions of the Atomic Energy Act as far as safeguarding the security is concerned.

Representative HOLIFIELD. May I say, as I understand it, the Atomic Energy Act requires prior reference by the Patent Office to the Atomic Energy Commission of any patent application which might have a definite defense value which they need to keep secret, and your so-called secrecy provision in the regular code only applies in case of the Defense people finding out that something might be of value to be retained and kept secret. It does not, as I understand, protect the Government from prior publication.

Mr. WHITING. Yes, it does.

Representative HOLIFIELD. Then are you telling me that any application for a patent in the field of weaponry must be referred first by the Patent Office to the Defense Department for ascertainment?

Mr. WHITING. To the Atomic Energy Commission and the Defense Department.

Representative HOLIFIELD. No, I am talking about the regular law.

Mr. WHITING. So am I, sir.

Representative HOLIFIELD. I am not talking about the Atomic Energy Act.

Mr. WHITING. I am not, either. I am talking about the Inventions Secrecy Act which would be in effect if the patent provisions of these aspects of the Atomic Energy Act were repealed. This is the background law that would be left in the event that this repeal took place. It says:

> Whenever the publication or disclosure of an invention by the granting of a patent in which the Government does not have a property interest might in the opinion of the Commissioner be deterimental to the national security, he shall make the application for patent in which such invention is disclosed available

for inspection to the Atomic Energy Commission, the Secretary of Defense and the chief officer of any other department or agency of the Government designated by the President as a defense agency of the United States.

Representative HOLIFIELD. I am very familiar with that, of course. I thought you were suggesting that this be annulled.

Mr. WHITING. No, sir. This act that I am referring to is not part of the Atomic Energy Act at all. The act that I have just read from is the Inventions Secrecy Act, which has to do with the secrecy of inventions in the judgment of the Secretary of Defense or any department or agency of the Goverment, including expressly the Atomic Energy Commission.

Representative HOLIFIELD. But it is based primarily on the judgment of the Commissioner of Patents.

Mr. WHITING. Yes.

Representative HOLIFIELD. With all due deference to the Commissioner of Patents, let us say he may or may not know whether it has value or not, and therefore he may very well not refer it. In the case of the Atomic Energy Act all patent applications are supposed to be referred to the Atomic Energy Commission for scrutiny in view of the fact that there is a great body of classified information whereby the Atomic Energy Commission's experts in their patent division might very readily see a defense value where the Commissioner of Patents, not having access to all classified information in which the weapon field of atomic energy might very well overlook it. This is the reason for this additional precaution in which all patents pertaining to atomic energy are referred to the Commission for scrutiny before a publication or patent is granted.

It is merely a question of whether the Patent Division of the Atomic Energy Commission is in any more qualified position to claim for the Government the secrecy or whether the Commissioner of Patents, in this very important field, has that knowledge.

Mr. WHITING. It is my understanding that it is routine with the Commissioner of Patents to refer patent applications to the proper department or agency of the Government. They go in one special division of the Patent Office, which as I recall it is Division 70, and those patent applications are, as a matter of routine, I understand, referred to the proper agency.

Representative HOLIFIELD. Are you speaking in the atomic energy field?

Mr. WHITING. Yes.

Representative HOLIFIELD. In all other fields, too?

Mr. WHITING. I think so. It is my understanding that is true.

Representative HOLIFIELD. If that is true, it is news to the Chair.

Mr. WHITING. The statute puts that obligation on the Commissioner to do so.

Representative HOLIFIELD. Yes, but it puts it on him in a selective way. If he deems it applicable to the weapon art he refers it to them. If he does not deem it, he is not under the compulsion that he is under the Atomic Energy Act, which says whether he deems it or not, he sends all of the applications to the Patent Division of the Atomic Energy Commission for their scrutiny from an expert standpoint, and then they refer many of them back and say "This has nothing to do with weapons, go right ahead with it."

Mr. WHITING. In that event, my suggestion would be that the Inventions Security Act, if that is the case, is not adequate. If it is not adequate for you, then it is not adequate for the Defense Department.

Representative HOLIFIELD. The Congress thought it was not adequate in the utilization of that exclusive property of the atomic energy owned by the Government by making a broader requirement on the Commissioner of Patents to refer all patents to them for scrutiny.

Mr. WHITING. Then my suggestion would be that the Inventions Security Act ought to be amended.

Representative HOLIFIELD. That is not our jurisdiction. Our jurisdiction is in the field of atomic energy. We who are in possession of a great deal of classified information which is not available to the general public and in many instances not available to Members of Congress unless they specifically need to know, when we see an area which might be overlooked under general law, it is our specific responsibility to protect the national interest in the field of application of atomic energy both in weapons and in peacetime uses. We have tried to do that which is within our jurisdiction, power, knowledge, and responsibility.

Mr. TOLL. Mr. Whiting, I would like to ask you, in view of your past experience as the leading patent authority in the Navy Department at one time; is that correct, sir——

Mr. WHITING. By no means.

Mr. TOLL. Chief patent counsel?

Mr. WHITING. I was patent counsel. You said the best, I think.

Mr. TOLL. In view of the Attorney General's report of 1947, with which I am sure are familiar, recommending that title to inventions financed by the Government should be in the Government's name, and in view of normal commercial practice, which is that he who pays for the invention takes the right, do you think that the AEC is out of step, or is the Navy Department?

Mr. WHITING. I think the AEC is very much out of step.

Mr. TOLL. You think the Attorney General was wrong?

Mr. WHITING. I think from my experience with the Defense Department—you are saying that the Attorney General proposed that title be assigned to the Government?

Mr. TOLL. That what?

Mr. WHITING. That title to patents be assigned to the Government.

Mr. TOLL. Yes; on these inventions financed by the Government.

Mr. WHITING. Be assigned outright to the Government; was that it?

Mr. TOLL. Yes; that was his recommendation.

Mr. WHITING. It is my understanding that the experience of the Defense Department has been to the contrary. A sounder procurement policy is one of a royalty-free license to the Government, leaving commercial rights in the contractor. That is my understanding.

Representative HOLIFIELD. Mr. Whiting, as a private businessman I would have to take your position strictly from a standpoint of my own financial welfare. But as a public servant, I might have to look at the expenditure of Government dollars for private property over and beyond the normal profits for rendering services as being an extra gratuity which has been given away for years by the Defense Depart-

ment under their loose policy of not requiring some type of different arrangement. I would not want that observation to stand without some qualification. I would say that even in comparing the Defense Department's policy with the Atomic Energy position, it is a different position completely because of the tremendous amount of money which the Government has spent of the taxpayers' money in establishing, you might say, all the basic knowledge in this field. Therefore, it is a little bit different proposition than the Defense Department contracts in an ordinary way to industries which are engaged in major private effort in different specialized fields, and therefore have accumulated at their own expense a great deal of background and knowledge and a great deal of patent equity which I think they should have. So there is a subtle difference—not so subtle, in my mind—between the automobile company that is making tanks for the Government out of its background of industrial knowledge, which is acquired mainly at its own expense, and a company which is given the complete technological knowledge, you might say, of how to make the warhead for the Atlas, including all the material that goes into it, and all the result of many hundreds of millions of dollars of expenditures in Government laboratories. Then to think of turning over some improvement that might occur on that to that company, it would seem to me, would be to ignore the great basic contribution which the taxpayer has made.

Mr. WHITING. How is that contribution going to be capitalized?

Representative HOLIFIELD. It is going to be capitalized by precluding that particular company who has the contract from excluding all other companies from future contracts as long as they have this peculiar advantage which they have acquired by virtue of their exclusive contract in the first place.

Mr. WHITING. Do the companies involved want that? It is not my understanding that they do.

Representative HOLIFIELD. This committee sent out a great many letters to industrialists and machinery manufacturers throughout the Nation, and up to now there has been a very limited response. I think this gentleman who testified today from private industry, Mr. Cennamo, was representing the Industrial Nucleonics Corp. I believe this is the only request we have had. All of the major companies have not come in here and asked that this thing be removed. All of you patent lawyers who have a vested interest, and a justifiable one, I admit, in maintaining patent litigation and patent protection for your clients have come in. I am wondering why these industries have not been in to protest this law if they have been damaged?

Mr. WHITING. The matter that is at stake here is not the vested interests of patent lawyers. It is a matter of principle. Under the Constitution the patent system was devised as the best incentive for the promotion of the practical arts, as you know, and I am not paraphrasing. It is the view of the members of the bar, not because of their interest in litigation, but because of their feeling of the rightness of the matter as officers of the court, and they take pride in that position, that the incentives of the patent system should be brought to play in this field, as it is rightly in most other fields, and there are very few exceptions, by the return of atomic energy inventions to the normally operating patent system. They ask you whether in the light

of the present state of advancement in this field, and the widespread knowledge of technical information on this subject that was once the most carefully guarded secret, and being mindful of the desirability, as everyone recognizes, of using to the fullest the incentives inherent in the patent system, the question here is what specifically is needed as statutory regulation in this field, over and above the law that is generally applicable to all fields.

The members of the American Patent Law Association feel that there is none.

Representative HOLIFIELD. The Chair wishes to withdraw any inference, if an inference was made, of criticism on the part of any witness before us as to their reasons for testifying, and if an apology is in order, the Chair extends it. The Chair would like to say that under the Constitution it says that the Congress shall have power to promote the progress of science and useful parts by securing for limited times to authors, inventors, exclusive right to their respective writings and discoveries. I submit, sir, that the patent laws that have been passed by Congress are based upon that article of the Constitution, and along with the right to exercise power in a certain way, the Congress, I think, also has the inherent power to withhold the exercise or to modify or extend that power. Therefore, the Congress in 1946 and in 1954 did exercise their constitutional right to pass those two particular acts. As to their wisdom, this is a matter of difference of opinion. Time alone will tell whether they were wise or not. We are seeking today to review the act to ascertain, if possible, from witnesses from both sides of the question as to whether there should be an extension, or a simple extension of date, or an existence of date plus modifications of certain aspects of the act, or whether we should allow the act to expire. Of course, this will be a majority consideration of the committee, and of he Congress, as to what we decide.

Thank you very much for your testimony, sir; it has been very valuable and very provocative.

Mr. WHITING. Thank you, sir.

The American Patent Law Association is a voluntary bar association of over 2,100 members who are lawyers practicing in the fields of patents, trademarks, and copyrights.

The American Patent Law Association favors a return of the atomic energy field to the normal operation of the patent system as soon as practical. It is believed that such a return is indicated and appropriate at this time. This would be accomplished by repeal of chapter 13 of the Atomic Energy Act of 1954. The effect of such repeal would be to place the Atomic Energy Commission on the same footing as the Defense Department, as regards its patent activities, controlled by such statutes as title 28, United States Code, section 1498, dealing with compensation to patent owners for the use of their inventions by the Government, and title 35, United States Code, sections 181 to 188 regulating in detail patent aspects of inventions with respect to which the national security is involved.

Such repeal would also better enable the Atomic Energy Commission to regulate its own patent affairs having to do with procurement, with the flexibility of self-imposed rules analogous to the armed services procurement regulations, ASPR section IX, dealing with patents

and technical data, and as contrasted with the more rigid statutory regulations now controlling the Commission.

Short of repeal of chapter 13, considerable improvement could be realized by amendment of specific sections of chapter 13.

This statement outlines some considerations in support of permitting free operation of the patent system in the atomic energy field and comments specifically on—

1. Certain provisions of chapter 13 of the Atomic Energy Act of 1954;
2. Foreign patents; and
3. Commission patent program.

Patent system in atomic energy field: A suggested approach in examining the patent system is to consider its effect on encouraging invention and, a sometimes overlooked effect, that of encouraging the development of inventions from the shop model stage to marketable products.

The patent system has three key objectives:

1. It stimulates invention and the search for new applications of knowledge by placing the inventor in a position to secure a reward. This reward is determined by the fairest system yet devised—the value of the invention in the marketplace. A valuable invention results in a high reward; a valueless invention results in no reward, despite any efforts and expense to patent and develop the invention.

2. It creates conditions warranting the investment of private capital to finance the hazardous introduction into the marketplace of inventions. Often, substantial investment is involved in perfecting an invention into a marketable product and developing a market for the product. The exclusivity of the patent grant provides an opportunity to realize a return on the investment before copiers, who have made little, if any, investment, move in and capitalize on the market and development efforts of the originators. The exclusivity feature of the patent grant is of particular significance to those small businessnesses having limited product lines.

3. It encourages the disclosure of new technology and tends to discourage secrecy, thereby encouraging early realization by the public of the benefits of scientific progress.

This is supported by Dr. Vannevar Bush's study No. 1 prepared for the Senate Subcommittee on Patents, Trademarks, and Copyrights.

Why should the atomic energy field be precluded from these benefits of the patent system? Atomic energy business is not limited to large power reactors manufactured by large businesses. It includes components for reactors supplied by small business vendors; also the utilization of isotopes in industrial processes and in instruments.

It is a field for the large and the small—a field that has grown from a few Commission contractors and over 1,400 holders of civilian access permits and over 4,000 isotope users today. How much greater would the expansion of peaceful uses of atomic energy have been if normal incentives had been operating?

Atomic energy inventions are not different in kind from other inventions in the electrical, chemical, or mechanical arts. Indicative of this is the fact that atomic energy patents are classified by the Patent Office in classes that existed before atomic fission was common knowledge.

The commendable job of the Commission in declassifying and disseminating information developed during the period of intense secrecy has brought those interested in participating in the field to a common level of knowledge in atomic energy technology. Also, atomic knowledge abroad has largely kept pace with our own and may have outstripped it in some areas.

Atomic energy is with us today in varied forms and has become a common household term. Is there any valid reason for according special treatment of patents in this field as distinct, for example, from patents on inventions in computer technology which may have as great is not greater impact on our civilization than will the peaceful uses of atomic energy?

The element of secrecy is largely gone from the atomic energy field, participation in this field is large and any concern for favored insiders no longer has validity. Why not permit the patent system to operate in the atomic field to assure the fullest utilization of our country's resources in funds, manpower, creative talent, and enthusiasm?

CHAPTER 13, ATOMIC ENERGY ACT

Provisions of chapter 13 of the Atomic Energy Act of 1954, particularly deserving of special consideration, are sections 151, 152, 153, and 155.

Section 151—Military utilization

It is questioned whether there is my justification for not conferring patentability on atomic weapons, subject, of course, to the operation of the existing secrecy statutes (35 U.S.C. 181 et seq.). Is there still any basis for continuing this exclusion?

Part (c) of this section requires the reporting of inventions and discoveries to the Commission. The purpose of this section is to keep the Commission fully and currently aware of all technology in the field of atomic energy.

The basis for continuing the requirement for reporting of new technology to the Commission is questioned. Why is the peaceful use of atomic energy accorded different treatment than new developments in other fields; such as materials or pharmaceutics, having an equal, if not greater, impact on our country and the world?

The continuing requirement to disclose to the Government new developments, financed with private funds, seems questionable in our free enterprise society. The normal incentives of the patent system are sufficient to stimulate disclosure.

If, in the judgment of Congress, some form of special reporting is determined to be necessary today to the national interests, the section should be clarified.

For example, it is not clear from section 151(c) what is meant by "useful in the production * * * of atomic energy" and "completion of such invention." One cannot be sure what is to be reported or when to report. The result of failure to comply and what use the Commission intends to or may make of reports submitted under this section might be clarified.

Section 152—Inventions conceived during Commission contracts

This section is unclear and, it is submitted, unreasonable. Why should an inventor be under a burden to show, to the satisfaction of

the Commission, that he is entitled to retain his invention developed with his own funds? There is the likelihood of involved and costly proceedings and the risk of loss of his invention if he fails to prove that it was made without some vague "arrangement or other relationship with the Commission." Is this appropriate in or consistent with our free enterprise society?

The title of this section is "Inventions Conceived During Commission Contracts" and yet its substantive effect is much broader. Why cannot and should not the Commission rely on its contracts rather than having available in addition to contract rights this section placing under a cloud many inventions to which the Commission has no rights?

The author of this section, W. Sterling Cole, has stated that too much was written into the section and Casper W. Ooms, former Commissioner of Patents, has stated that this is the most mischievous section of the act.

There does not appear to be any need or moral or equitable basis for this section. Repeal of this section is strongly urged.

Section 153—Nonmilitary utilization (Compulsory licensing)

It is believed that in the past, emphasis on this section may have resulted in decreased attention to section 152 which is considered to be most deserving of attention.

Compulsory licensing is inconsistent with the basic philosophy of the patent system. It removes the feature of exclusivity which often is the only basis for relying on patent coverage to protect the investment involved in developing an invention into a marketable product.

This section was enacted primarily to preclude a dominating patent being used to block progress in the atomic field despite the fact that courts have not felt compelled to grant injunctive relief under certain circumstances affecting the public interest.

There is no report of the section having been relied upon since its enactment.

The increasing maturity of atomic energy technology, minimizing the likelihood of a dominant patent issuing in this field, and the discretion available to the courts in enforcing patents makes the need for this section questionable. At the very most the operation of this section should be limited to patent rights on inventions developed under Government contracts and then only in an area of pioneer technology.

It is hoped that the feeling of concern that resulted in the enactment of this section has been dispelled, and that the section may now be allowed to expire.

Section 155—Prior art

This section is unclear and inconsistent with the patent law and adds another degree of uncertainty to the validity of atomic energy patents. For example, what use or knowledge is sufficient to bar a patent? At a very minimum, the knowledge of the invention should have been reduced to writing and distributed, for example, by the Commission Technical Information Service. Mr. Ooms' comment appearing at page 32 of the Joint Commitee print is of interest. He urges that "knowledge" be permitted merely as a defense to infringement by the Atomic Energy Commission.

FOREIGN PATENTS

The very substantial Government investment in research and development gives rise at the question of the adequacy of foreign patent coverage on the results of this research and development to enhance the opportunity of U.S. atomic industry in the marketing of its products in foreign markets.

Present Commission contract practices do not permit a Government contractor to retain applications by the contractor. This has resulted in the Commission filing most of the foreign patent applications covering nuclear technology resulting from Government contracts.

The table on page 109 of the Joint Committee print indicates an encouraging trend in the filing of foreign patent applications by the Commission in recent years. It is not clear, however, how many inventions are involved in these foreign filings. Also, it is hoped that volume II of the Joint Committee print relating to international aspects of atomic energy patents will shed additional light on the status of the Commission's foreign patent program and its relation to activities of U.S. industry and foreign governments.

Ultimate utilization of patents is, of course, significant. It is not clear what action has been taken to utilize the Commission portfolio.

It is submitted that a need for consideration of Commission contract patent policies and practices at least as they relate to foreign patent coverage in the atomic field is indicated. For example, Government contractors might be allowed to retain title to foreign patents covering inventions resulting from Government contracts on the condition they would grant licenses at reasonable royalties to others and a royalty free license to the U.S. Government for Government purposes.

COMMISSION PATENT PROGRAM

The American Patent Law Association appeared at the April 15, 1958, hearings held by the Commision on its patent program and, therefore, further discussion of the Commission's administration of its patent program seems unnecessary other than to touch very briefly on the subject of patent rights resulting from Government contracts.

A policy where the Government is granted a nonexclusive license to practice such an invention for Government purposes and title is retained by the contractor should result in:

1. Increased incentive to Government contractors, particularly the small businesses which are often very dependent on patents.

2. The cost of obtaining any patents being borne by the contractor. If the invention is valueless, he gets no return on his patent. The Government obtains all rights necessary for its needs without the cost and trouble of procuring patents. Government contracting costs for patents should be reduced.

3. Effective foreign patent coverage being encouraged.

4. The best qualified contractors being encouraged to participate in the field.

Volume 1 of the Joint Committee print, Selected Materials on Atomic Energy Patents, has been generally available for such a short period of time that there has been little opportunity to fully study the materials in it.

The amendments proposed by the Atomic Energy Commission which appear in volume 1 would result in some clarification but would not meet the fundamental issues already touched on in this statement. It is disappointing to note that the Commission feels extension of section 153 is necessary and in the best interests of the Nation. It is noted that the American Patent Law Association has previously approved H.R. 600 (85th Cong.) as a step in the right direction.

We would appreciate the opportunity to comment further on the materials in volume 1 of the Joint Committee and to comment on the materials in the yet to be released volume II, if study of these materials by our members indicates the appropriateness of such comment.

Representative HOLIFIELD. Our next witness is Mr. Charles A. Prudell, of the National Association of Manufacturers.

STATEMENT OF CHARLES A. PRUDELL, NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. PRUDELL. Thank you, Mr. Chairman. If it please the Chairman, we are in the waning hours of the afternoon. We represent 20,000 manufacturers. Our matter is extremely important. We would like to have at least a full half hour, and perhaps we could come back tomorrow morning, if you would be willing to do that.

Representative HOLIFIELD. Let us proceed with the full half hour.

Mr. PRUDELL. Thank you. Mr. Chairman, my name is Charles A. Prudell. With me is Mr. Reynold Bennett, committee executive of the National Association of Manufacturers Patent Committee. I am acting chairman of the Atomic Energy Subcommittee of the Committee on Patents. I am speaking for that association.

As I go along the statement which has been handed to you and the members of your committee, I will skip some paragraphs with the understanding that the full statement will be inserted in the record (see p. 155) and invite your questions as I read it. Perhaps I will be interpolating a little, too.

This statement is submitted on behalf of the National Association of Manufacturers, a voluntary association consisting of over 20,000 members, of which over 18,000 have less than 500 employees, and over 6,000 have less than 50 employees. Therefore, the association represents small, medium, and larger producers as well as a cross section of all types of business enterprises.

Let us skip the next paragraph and go on.

Along with individual inventors, the bar associations, and other groups, we have been vitally stirred by the increasingly serious disadvantages to the public and the business community of the patent provisions of the Atomic Energy Act of 1954. I would like to emphasize the word "public." We have had much testimony and many questions concerning the role of the Government in this matter, the Government expenditures which they perhaps want to get back for safeguard. All is well, but as you probably will determine, I will cast our views toward the broad range consideration of the public now and in the future.

We have been studying, and carefully reconsidering our experience in this regard and are impelled to urge that this committee at the earliest possible date should recommend restoring the atomic energy

field to the beneficial incentives operating in other endeavors. The world situation requires that the maximum incentives to invention and investment be fostered as in the case of technology in general. In this regard might I interpolate at this time and say this is certainly a battle of technology, but more important, it is a battle of philosophical considerations of how that technology shall be used. We will endeavor to show you that we think that the philosophical considerations behind the act of 1956 are unsound, in our opinion.

Representative HOLIFIELD. I would like to comment on that point, if you refer to philosophy, we would be glad to hear the philosophical discussion as well. But from the standpoint of technology, I might call to your attention the fact that I do not believe that ever in the history of the world has there been such a quantum jump in the technology of weapons as has occurred since 1945 in the atomic energy field. I only have this one illustration to give you. In the bomb that was dropped over Hiroshima and Nagasaki, it was so large that it had to be carried in the bomb bay of a B–29, and it released something like 20,000 tons of TNT energy equivalent. In the short space of some 9 years, up to 1954, we advanced that technology to the point where we minimized the size of the weapons considerably and we increased it to many millions of tons of TNT equivalent. Since 1954, we have advanced the technology to the point where we can put many millions of megatons on the head of an Atlas missile, which is very small in comparison to the bomb bay size of a B–29.

We have done all this without the advantage of the patent system. We have done it with a very great investment of Government money in the laboratories and it has been in the Government laboratories that the great advances in weapons has occurred in the shortest period of time in history for the amount of progress that has been made in any one art that you can point to in the world.

Mr. PRUDELL. Thank you very much.

Representative HOLIFIELD. That is just one illustration.

Mr. PRUDELL. Thank you very much. I think we are going to have more, and much more. We will get to that point a little later. It is now clear that work in the atomic energy field requires large investment in research and engineering and often results in a substantial period of unprofitable, if not actual loss, operations. Many companies entering this field so hopefully some years ago have now discontinued related work. Apparently the atomic energy program needs and can benefit from the removal of the impediments which are forestalling its progress.

We submit that this can best be done, if not by dropping special patent legislation, then (1) by permitting title to vest in contractors and subcontractors, (2) by removing the threat of compulsory licensing, and (3) by removing the present possibility of invalidation through prior art maintained in secrecy.

Without intending to imply approval of any provision of chapter 13, by failure to comment thereon, the following remarks are limited largely to those sections of that chapter relating to the three recommendations just made.

SECTION 152—INVENTIONS CONCEIVED DURING COMMISSION CONTRACTS

The vesting of title to inventions in the Government has several vital disadvantages. The first, and most frequently noted, is reduction in incentive to contractors. While patent rights may not be the only incentive for contractors in the atomic energy field, the possibility of protecting investment by obtaining such rights is a very important business inducement.

Mr. TOLL. I can only deduce by your statement that you hope that this industry will be developed under Government ownership rather than private ownership.

Mr. PRUDELL. It will perhaps be developed as a team. Let me continue. I would never go on record as saying that.

Mr. TOLL. There is nothing to prevent private development in the present act, is there? You are complaining because you may lose some rights by doing business with the Government. Do you favor private development?

Mr. PRUDELL. Naturally.

Mr. TOLL. Is there anything to hinder private development in the present act, in section 152?

Mr. PRUDELL. We believe so.

Representative HOLIFIELD. It is only where private development mingles its research money with Government research money. If they do not want or need Government research money, they need not accept it, but we find they frequently request it. In fact, we have several proposals for it before us.

Mr. PRUDELL. Of course, you do.

Representative HOLIFIELD. May I point out one other fact. There are many, many fields of contract with the Government, business contracts, the field of building highways, dams, and other sorts of things like that, in which there is no patent right expected. The private industry is very glad to get the contract.

Mr. PRUDELL. Naturally. Let me go on here. I think I have a complete answer to that question later on. If not, please ask me.

Retention of title by contractors would certainly tend to assure the Government of the availability of the largest price of development and procurement to the U.S. Government. The Government would not have to go into business itself and save the taxpayers' money by having the private enterprise do it. Thus, any provision reducing total incentive operates to the detriment of the public as well as industry.

Representative HOLIFIELD. I must interrupt you there by saying that we have several great corporations who are actually performing for the Government on a cost, no-profit basis, such as the General Electric operation at Hanford. I think they get a very small fee. We have had Du Pont at Savannah River. They don't require a fee. They are so anxious to get into this business and accumulate the techniques and know-how that they are perfectly willing to operate without profit.

Mr. PRUDELL. Thank you. I have an answer for that, too, and I will come to it.

Secondly, the loss of foreign rights flowing as a practical effect from this section is further detriment to the public interest. U.S. inventors who are unable to develop foreign patent situations are finding, and will in the future find themselves more and more at a disadvantage

in operating in foreign countries where industry may hold patents in this field, because of the absence of a trading position. The treaties or arrangements which the United States has made with foreign governments are of little value in this connection. Government contractors should be encouraged, therefore, to build up foreign patent positions by being permitted to obtain foreign patents at their own expense—title to such patents residing in those contractors, subject to a free, nonexclusive license to the U.S. Government.

Moreover, such a revision would provide an effective means for demonstrating the technical contributions on the part of the United States. It would facilitate sales of apparatus abroad by American inventors and the licensing to foreign manufacturers, and it would encourage valuable U.S. investments abroad generally.

Another disadvantage to the title vesting situation under the act's invention provisions is with regard to fostering growing and worthy small businesses which frequently have limited funds and background. Many small business concerns, particularly on the subcontractor level, strenuously object to the patent provisions of the act and contractors often are obliged to secure a waiver or revision of patent provisions for their suppliers.

As far as the small business is concerned, taking such a contract without the possibility of protecting their creative effort, No. 1, it disrupts their normal business. No. 2—you just said it for the big ones, but I am speaking for small ones now—the money is rather small and no protection for what they have done for their creative efforts.

Representative HOLIFIELD. If they have any creative effort, which they have developed on their own, they can obtain their patent.

Mr. PRUDELL. I know but they are not going to do that, sir.

Representative HOLIFIELD. As you and I know, sir, as far as the small concern having the opportunity to obtain patents in this very complicated field—I am talking about important patents, because this is what the act is really designed for, to protect all of the rest of industry in the case of a patent which is deemed to be of primary importance to the development of the art, and does not apply to a broad field of patents on a lower level. As a matter of fact, many small businesses do have these small patents or patents of lesser importance.

Mr. PRUDELL. Isotopes is one type.

Representative HOLIFIELD. Yes, it is true in many fields. As a matter of fact, you know that it takes great laboratories and great effort on the part of industry in these complicated fields to develop patents nowadays of any real importance.

Mr. PRUDELL. I do not know it as a fact.

Representative HOLIFIELD. Once in a while you will find a fellow who gets a bright idea. I don't think the transistor or any other of these important inventions of the last 10 years have stemmed from the Henry Ford garage on the back-of-the-lot type of inventions.

Mr. PRUDELL. We will attempt to show a little later that you should not shut the door or you could not shut the door on creative ingenuity.

Representative HOLIFIELD. We do not think we have. We feel if they are spending their own money that door is still wide open. But if they come to the Congress and say we would like to have a million dollars of taxpayers' money to do research and development in this field, then they do not come before the court with clean hands when they come to establishing their personal equity.

Mr. PRUDELL. I understand your point. Normally a small business, in order to be a subcontractor for a prime contractor, has to disrupt its normal business operations to get into it. That is the point I made as No. 1.

Representative HOLIFIELD. I have so many small contractors in the Los Angeles area that are sending me letters to help to get a contract of any kind that I feel they are perfectly willing to bear the disruption that may be in this procedure in order to get a little business.

Mr. PRUDELL. Mr. Chairman, maybe we can make our point a little further on.

Representative HOLIFIELD. All right.

Mr. PRUDELL. Thank you.

SECTION 153—NONMILITARY UTILIZATION

This section constitutes the compulsory licensing provision. The earlier feeling that a few large companies might, by reason of early entry into the field, monopolize atomic energy development, is hardly the situation today nor is it likely in the future. The fundamentals of atomic energy are now well known throughout the world and we submit that future inventions will almost certainly be limited to improvements. In the improvement stage, we believe it desirable to induce as many companies, laboratories, and individuals as possible to work in this field because a broader base of invention will result along with a more rapid advance in the art. We called your attention to a recent monograph of the Senate Judiciary Patents Subcommittee (Study No. 2) which points out retention of title by contractors with only a nonexclusive royalty-free license to the Government enabled many small businesses following World War II to participate widely in building up a tremendously diverse patent picture in the electronics field. With such a policy in effect in the atomic energy field, a manufacturer encountering a patent which is privately owned will have a greater incentive to design around such patent and thereby advance the art and obtain patent rights of his own. On the other hand, if title remains in the Government, the tendency will be to follow the old path rather than to create a surge forward.

Compulsory licensing has been suggested and has been rejected many times. The atomic energy situation today does not warrant departure from this basic congressional policy. Further, compulsory licensing provisions affect more seriously the small businessman who may need the exclusiveness of a patent to hold his own in competition with a bigger organization which may have more talent, lower costs, and other advantages. Actually a patent benefits the small businessman more than it benefits the large company, because without that patent a large company with its tremendous talent and its great merchandising potential can undersell and outsell and put out of business a small businessman. Compulsory licensing does not put small business into business, because such enterprises simply don't have the background or staff to use a mere license. It takes more than a patent to put goods on the table.

Representative HOLIFIELD. You are not arguing against yourself there, are you? If that small business can get that license, you still say that he can't go ahead, but if he had it himself, he could go ahead. Is that your argument?

Mr. PRUDELL. If he had a patent to protect what he had his money in, then he can keep others out for a limited time. If he has a compulsory license everyone has it. The big one has it, the little one has it, and the big one might push the little fellow out.

Representative HOLIFIELD. That is what the patent law is for, to push them out after 17 years with such additional extensions.

Mr. PRUDELL. The patent law is to promote science and the useful arts.

Representative HOLIFIELD. It is to promote a monopoly.

Mr. PRUDELL. That is right, for a limited time.

Representative HOLIFIELD. Seventeen years, plus all the improvements that can be put onto it to extend it for an additional 15 years.

Mr. PRUDELL. I will get to that discussion a little later. Those are new patents. Those are new issues. Let us go on to the AEC proposed bill.

Referring briefly to the March 13, 1959, draft of a new bill proposed by AEC, we are pleased to see the extension of the reporting period, the deletion of section 158, and many improvements in wording. We are, however, disappointed that the proposed changes do not go to the main points as discussed above, nor is there a clarification of certain language. For brevity, only a few major points are mentioned herein.

In the proposed section 151, we are forced to ask: when is an invention or discovery "useful" in the production or utilization of special nuclear material or atomic energy?

In the proposed section 152—we believe that situations justifying waiver are left up in the air. Under the AEC proposal, the Commission is not required to act with the promptness that would assure any preservation of U.S. and foreign patent rights. Also, we are concerned with what constitutes a "complete" statement under the AEC proposed section 152. Finally, the new matter at the end of the section is not entirely clear as to a contractors' review rights beyond the Commission.

SECTION 155—PRIOR ART

This would provide an additional departure from the general law of patents. All normal anticipatory matters are based upon published knowledge. Secret art is not available to invalidate a patent and should not be available as prior art in the Patent Office. This problem is faced by all other governmental situations involving inventions and different treatment for atomic energy inventions is not justified.

Representative HOLIFIELD. You applaud the prohibition against monopoly in the so-called draft. You would like to have the right of monopoly continued?

Mr. PRUDELL. Which monoply are we speaking about now? Let us go to the last paragraph.

Regardless of any clarification of the few foregoing questions raised about the AEC bill, that proposal falls far short of the direct and complete cure for all the troubles discussed under the existing Atomic Energy Act patent provisions. Nothing less than our already noted suggestions will give our Nation the full advantage of its industrial might. For many years, NAM's Patents Committee has

been studying the overall patent system from the standpoint of the American public and in the interest of sound economic policy. The conclusion, in brief, of professionals and long experienced observers in the field is that the basic U.S. patent system is the finest in the world and should be utilized as a continuing and absolute necessity for our accelerated progress and well being.

Now I have some notes that I would like to discuss. Again they are not in this printed record that you and I have, but please interrupt me. I would like to discuss this one thing, and you sort of brought me right into it. There has been a lot of talk about taking the know-how which the Government provided by assembling talent with money.

Mr. Chairman, here is my point. You don't patent the existing know-how. You patent what you contribute. You can't patent all of these secret things in all of this mountain of work, and tremendously wonderful work it is that has been going on. You have to add a little car onto that train and then that is your monopoly.

Representative HOLIFIELD. I don't think the inference has been made that you can patent know-how without a reduction to practical use. I would like to correct that because I realize that one of the great incentives which has caused companies, such as Du Pont, General Electric, and others to render a tremendous service to the American people, has been the opportunity, first, to assemble great aggregates of skilled people in a new field; second, to acquire know-how and techniques which probably are nonpatentable, but which are a very valuable part of industrial production. I am sure that has been the incentive. That and their desire to do a patriotic job in a field where we feel that we are on trial between the Communist world and the free world.

I give them credit for having this type of motive as well. I know in the case of some of these industries that the Government has had to actually importune them to accept a certain task in this field on a very modest profit or in some instances no profit basis for the purpose of rendering a public service. I recognize that, and I want to pay tribute to that today.

Mr. PRUDELL. I rather believe you do understand the point. Private industry would not be patenting what the Government had done, but rather what private industry through its creative ingenuity, the individual inventors, has done.

Representative HOLIFIELD. I understand that. My comment is that they would be patenting new information in case of a research and development contract as a result of Government expenditure.

Mr. PRUDELL. Not entirely. Money does not create ideas.

Representatives HOLIFIELD. But it is helpful in operating laboratories and conducting experiments.

Mr. PRUDELL. Know-how is sometimes described as the sum total of ingenity, experience, and facilities. The ingenuity comes out of the human mind.

Representative HOLIFIELD. That is true. It is a pretty well established principle that he who pays the fiddler calls the tune. In this case in research and development where the Government is paying the fiddler, it has some equity rights, the same as General Electric if they pay the tune in their laboratory for research and development.

Mr. PRUDELL. We will get back to this on these other notes. You put it most strictly for me, but I will get back to it. I won't forget it, I promise you.

Representative HOLIFIELD. We are going to adjourn fairly soon. While I am enjoying this, I just got a note here that a group of people that I have an appointment with in my office are awaiting me there. This is one of those cases of private initiative. They may have something to do with my reelection. It is mighty important for me to be with them. I have that incentive in the back of my mind as you proceed.

Mr. PRUDELL. Thank you. We take the position that the waiver patents under the AEC provisions, while they might have increased, if you increase from 5 to 10, that is an increase. But overall looking at it broadly we must disregard it as de minimus. It seems to me that we are in the realm pretty much of speculation. A lot of people say it would be a lot better under the patent system. You say we have done very well. You can't show us a case. In that regard, as far as showing you a case, it is a hard thing to do. We have had difficulty. One of the reasons we have had difficulty from large and small manufacturers and medium size is that they are very hesitant to show difficulty for fear that they would be branded with an unpatriotic label. It is pretty difficult to get these cases. But by the same token, speculation before a court we would have the better of the argument. The patent system has acted as an incentive. It has been the traditional American way. We should have the better part of the argument. I think speculation is more on your side.

The next point is that we cannot compete with the Soviets on their own terms. The Atomic Energy Act is an attempt to compete with the Soviets on their own terms where failure may mean death. In this country, with our protection of human liberties, we can't compete with the Soviets, the way they are doing it. We believe that the AEC bill as presently proposed is a Soviet version.

Representative HOLIFIELD. I would not take the time to argue that point with you, but up until now I think you have presented a very good case. I think when you brand such men as the present Commissioners——

Mr. PRUDELL. There is no attempt to do that.

Representative HOLIFIELD. The present Commissioners who have sent the modification of this act to us, including the extension of the compulsory licensing provision, and the extension of the basic provisions, as advocating something along the Soviet system, you are taking in a lot of territory.

Mr. PRUDELL. It is a lot of territory, I agree.

Representative HOLIFIELD. I think on further contemplation you might want to change your testimony, because I would hesitate to see the Congress of the United States which has passed this bill with great deliberation and with access to a great deal of classified knowledge and the previous Atomic Energy Commissioners, and the present Commissioners, branded as being quite that far to the left.

Mr. PRUDELL. I must say that I will develop this a little further. There is no attempt to go to the extreme as you mentioned. We believe that the present act is detrimental to small business. The Department of Commerce over the past years has shown the traditional story of

acorn to oak tree. Small business people put all of their money into an invention, protect it, make profits, and then go into other businesses. We do not believe that this is possible under the present act. We feel that the reasons—and this is getting back to this other position—for the adoption of the Atomic Energy Act, such as it was—and we believe they were proper at the time—no longer exist. You were talking about all of this know-how. You, Mr. Chairman, I am sure, are aware of the Euratom Treaty. The United States is a signatory to that treaty and not a participant, except we will give $300 million, and in excess of that, plus all know-how, to the common market countries to make them strong.

Mr. TOLL. You are off quite a bit on your arithmetic, but go ahead.

Mr. PRUDELL. $300 million.

Mr. TOLL. Yes. That's incorrect.

Mr. PRUDELL. Maybe it is a little more.

Mr. TOLL. We are giving American industry a good hunk of that. It is used to finance American industry to send equipment to the Euratom countries. You might study it further.

Mr. PRUDELL. I have. The point I want to make is this. The dissemination of knowledge is widespread now, and it is going to become increasingly widespread. I can't talk about what the Russians are doing except that you hear—and I am no authority on what they are doing—but they are doing very well. That is my understanding. This secret of this terrible bomb at Hiroshima is now all over the world. It may be that the reason for the enactment of the act in the first place was to keep it a secret. I submit very earnestly to you, sir, those reasons no longer exist.

Representative HOLIFIELD. I can only say this to you, sir. When you increase the efficiency of a weapon as many feet long and as many feet across from 20,000 tons of TNT to 20 million tons of TNT in the short period of a decade, there are a great many secrets still involved in the techniques of improvement which, unfortunately, or let us sav most fortunately, we believe that we do possess exclusively.

Mr. PRUDELL. We have done a wonderful job but I think we could do a better job. Now I would like to comment a little bit on this. Coming on the plane, I was reading some of the testimony of the 1956 act, and I was most impressed with the fair approach. One of the things was that while there seemed to be diverse interests on both sides, we have to reconciie interests. This has been going on for a number of years, and it seems we are still reconciling interests. If we do not turn over atomic energy and its ramifications to the great creativity of the American mind, free and unfettered, and put it under the patent system, we may be reluctant bridegrooms too late.

Another point was made, and that is about monopoly—favored few getting a monopoly. We have heard it in some testimony,. It seems to be a fear that people will get a monopoly as a result of working with the Government. I don't have to tell you, sir, that we do have antitrust laws and monopoly laws, and I would suggest that they are most adequate. Years ago the Supreme Court has determined that you cannot use a patent to effect an illegal purpose. So I would suggest that under the patent laws and under the monopoly laws, we are adequately taken care of.

Representative HOLIFIELD. This is a comforting statement with which I do not necessarily agree as is evidenced by the managed price

system which now obtains in the field of steel, automobiles, and a few other large efforts where, if there were adequate antitrust laws, we might have little more competition. We might see, for instance, the United States Steel Co. reducing their prices when their production goes down to 50 percent of their capacity as is the case in all other fields where competitive endeavor obtains, instead of raising their prices when they are at 50 percent of capacity and not following the norms of the competitive system.

Mr. PRUDELL. This is a matter that I feel ill equipped to discuss with you, sir.

Finally, there has been much talk about Government putting in this amount of money and they certainly did. Without it we would not have it. I am sure. This is a little homey thought. You know the Government pays farmers to fertilize their fields. The Government does not take title to those fields and never will.

Thank you very much.

Representative HOLIFIELD. You are certainly very welcome. We appreciate your testimony.

The meeting is adjourned.

(The full statement of Mr. Prudell follows:)

STATEMENT OF THE NATIONAL ASSOCIATION OF MANUFACTURERS TO THE JOINT COMMITTEE ON ATOMIC ENERGY SUBCOMMITTEE ON LEGISLATION

This statement is submitted on behalf of the National Association of Manufacturers, a voluntary association consisting of over 20,000 members of which over 18,000 have less than 500 employees, and over 6,000 have less than 50 employees. Therefore, the association represents small, medium, and larger producers as well as a cross section of all types of business enterprises.

Basically, our position is that "All laws relating to all fields of activity including the Atomic Energy Act of 1954 * * *, should be entirely free of any special patent provisions so that the full incentive of the patent system may remain effective to advance such arts, subject to law relating to secrecy, security, and the right of the Government to use the invention of any patent, subject to the payment of fair compensation."

Along with individual inventors, the bar associations, and other groups, we have been vitally stirred by the increasingly serious disadvantages to the public and the business community of the patent provisions of the Atomic Energy Act of 1954. We have been studying and carefully reconsidering our experience in this regard and are impelled to urge that this committee at the earliest possible date should recommend restoring the atomic energy field to the beneficial incentives operating in other endeavors. The world situation requires that the maximum incentives to invention and investment be fostered as in the case of technology in general.

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Secondly, the loss of foreign rights flowing as a practical effect from this section is a further detriment to the public interest. U.S. inventors who are unable to develop foreign patent situations are finding, and will in the future find, themselves more and more at a disadvantage in operating in foreign countries where industry may hold patents in this field, because of the absence of a trading position. The treaties or arrangements which the United States has made with foreign governments are of little value in this connection. Government contractors should be encouraged, therefore, to build up foreign patent positions by being permitted to obtain foreign patents at their own expense, title to such patents residing in those contractors, subject to a free, nonexclusive license to the U.S. Government. Moreover, such a revision would provide an effective means for demonstrating the technical contributions on the part of the United States; it would facilitate sales of apparatus abroad by American inventors and the licensing to foreign manufacturers, and it would encourage valuable U.S. investments abroad, generally.

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AEC PROPOSED BILL

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In the proposed section 151, we are forced to ask: when is an invention or discovery "useful" in the production or utilization of special nuclear material or atomic energy?

In the proposed section 152, we believe that situations justifying waiver are left up in the air. Under the AEC proposal, the Commission is not required to act with the promptness that would assure any preservation of United States and foreign patent rights. Also, we are concerned with what constitutes a "complete" statement under the AEC proposed section 152. Finally, the new matter at the end of the section is not entirely clear as to a contractor's review rights beyond the Commission.

Section 155—Prior Art, would provide an additional departure from the general law of patents. All normal anticipatory matters are based upon published knowledge. Secret art is not available to invalidate a patent and should not be available as prior art in the Patent Office. This problem is faced by all other governmental situations involving inventions and different treatment for atomic energy inventions is not justified.

Regardless of any clarification of the few foregoing questions raised about the AEC bill, that proposal falls far short of the direct and complete cure for all the troubles discussed under the existing Atomic Energy Act patent provisions. Nothing less than our already noted suggestions will give our Nation the full advantage of its industrial might. For many years, NAM's Patents Committee has been studying the overall patent system from the standpoint of the American public and in the interest and sound economic policy. The conclusion, in brief, of professionals and long experienced observers in the field is that the basic U.S. patent system is the finest in the world and should be utilized as a continuing and absolute necessity for our accelerated progress and well-being.

(Thereupon at 4:50 p.m., Wednesday, April 22, 1959, a recess was taken until Thursday, April 23, 1959, at 10 a.m.)

ATOMIC ENERGY PATENT MATTERS

THURSDAY, APRIL 23, 1959

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON LEGISLATION OF THE
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room P–63, the Capitol, Representative Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Price, and Bates.

Also present: David R. Toll, staff counsel, Joint Committee on Atomic Energy.

Representative HOLIFIELD. The committee will be in order.

The Subcommittee on Legislation is meeting this morning to continue public hearings on atomic energy matters. The first witness this morning is Mr. John Curran, representing the AFL–CIO.

Mr. Curran, we are glad to have you with us this morning. Will you proceed.

STATEMENT OF JOHN CURRAN, LEGISLATIVE REPRESENTATIVE, AMERICAN FEDERATION OF LABOR–CONGRESS OF INDUSTRIAL ORGANIZATIONS

Mr. CURRAN. Thank you, Mr. Chairman. I am appearing here this morning, Mr. Chairman, on behalf of the AFL–CIO in place of Mr. Andrew Biemiller, who extends his regrets at his inability to appear here this morning. I have with me Mr. George Taylor of the research department of the AFL–CIO who is also the secretary of the staff subcommittee on atomic energy of the AFL–CIO. The statement of Mr. Biemiller reads as follows:

I am appearing before your commitee for the purpose of conveying the position of the AFL–CIO on H.R. 5846 which would amend the Atomic Energy Act of 1954 with respect to patenting of inventions relating to the use of atomic energy. The AFL–CIO has consistently supported those sections of the 1954 Atomic Energy Act relating to the cross licensing of patents under jurisdiction of the Atomic Energy Commission. We feel very strongly that new inventions advancing the technology of peaceful applications of atomic power should remain in the public domain and have so stated previously in testimony presented to this committee.

We have made particular mention of section 153 of the act with respect to the Commission's ownership and control of patents. We have called attention, both in 1958 and this year, to the fact that the time was drawing close to the expiration date of September 1, 1959, of subsection (h) of section 153 and have urged that the Congress extend this indefinitely. The Commission's proposed legislation extends the nonmilitary utilization patent provisions until September 1, 1964.

We feel that the Commission has taken a step forward in proposing to the Congress that atomic inventions which are patented should continue to be vested in and be the property of the Commission for another 5 years. However, our position remains the same: that while it is necessary to stimulate peacetime atomic technology by means of patent incentives, this technology is presently being developed by very few corporations in the field. It is, therefore, in the national interest to prevent these companies from obtaining a monopolistic control over basic inventions which, in considerable amount, would be developed largely at public expense. Compulsory licensing provisions, therefore, should be continued indefinitely without any specific cutoff time until the Joint Committee and the Congress can, in the future, review the whole situation and determine whether or not the time has arrived which would allow subsection (h) to be rescinded.

Such determination can only come after the atomic industry in the United States has cleared a sufficiently broad base so that small, as well as large, businesses would be enabled to compete on as nearly an equitable basis sa possible.

We recognize tht while we are aware of no occasion having arisen to invoke the power of the Atomic Energy Commission to declare a patent with the public interest and, therefore, such a compulsory licensing, it is undoubtedly due to the fact that the industry is very young. It is also undoubtedly caused by the fact that most inventions in the atomic energy industry have been made within the Atomic Energy Commission itself or by its employees and contractors. Compulsory licensing is the only legislative method of protecting the public against the appearance and utilization of dominating patents which can place one or a few corporations in control of important aspects of atomic energy development.

Such domination might seriously affect the national interest which is to push forward on the broadest front possible to achieve a flourishing, and in particular a competitive atomic industry in the United States. Certainly this protection should remain in the act for an indefinite period until the Congress has been provided with sufficient assurance that its relinquishment as part of the basic At mic Energy Act would not in any way contribute to a monopolistic control in this field.

We are happy to have the opportunity to present our views before the committee and feel certain that action will be taken by the committee and the Congress before the compulsory licensing provisions expire on September 1 of this year.

Representative HOLIFIELD. Thank you, Mr. Curran, for your statement.

Mr. CURRAN. Thank you, Mr. Chairman.

Representative HOLIFIELD. The next witness is Mr. Bennett Boskey, former Deputy General Counsel of the AEC, and a private attorney.

STATEMENT OF BENNETT BOSKEY, FORMER DEPUTY GENERAL COUNSEL, ATOMIC ENERGY COMMISSION

Mr. BOSKEY. Thank you, Mr. Chairman. My name is Bennett Boskey. I am a partner in the Washington firm of Volpe, Boskey & Skallerup, and it might be useful to the committee if I spent just a moment explaining my own connection with, and interest in, the kind of matters which the Joint Committee is hearing today.

During the period when I was in the Office of the General Counsel of the Atomic Energy Commission, namely, the period of January 1947 through April 1951, I did have some responsibility there for patent and invention matters arising within the Commission. This responsibility included among other things participation in cases which were being tried before the Patent Compensation Board established by the McMahon Act.

Since leaving the Commission in 1951 and going into private practice, I have continued my interest in these matters. From time to time

I have had the responsibility of advising particular clients on patent and invention matters arising in the field of atomic energy. On certain occasions, I have participated in patent litigation in the courts. I have also tried a case before the Patent Compensation Board, which is still a pending case.

In addition, I have been serving as chairman of the Patent Subcommittee of the Atomic Industrial Forum.

I mention these things because I want it to be clear that in appearing this morning, I am stating my own views alone. I have had a long connection with these matters. I have written a number of articles on them, and made occasional addresses on them. I am not this morning speaking on behalf of any of my clients. I am not speaking on behalf of the Atomic Industrial Forum. The views which I present are the views of myself, and myself alone.

With that introduction I should like to go on and say what I have to say on this subject.

Approximately 5 years ago, in connection with its consideration of the Atomic Energy Act of 1954, the Joint Committee on Atomic Energy dealt at length with patent and invention aspects of atomic energy.

The legislation which emerged in 1954 represented a considerable measure of compromise and accommodation between conflicting views. I am sure that no one ever claimed the 1954 patent provisions were perfect. Certainly there was ample room left for improvement and for change in the light of experience.

Now, 5 years later, the Joint Committee is reappraising the patent provisions in the light of the conditions which actually exist today and which can be expected to exist during the period of the next few years.

One thing experience has taught us is that the patent provisions of the act probably will be reexamined not annually, but rather at somewhat less frequent intervals. This is only natural. For one thing, the patent provisions historically have been one of the controversial portions of this legislation, and ordinarily no useful purpose could be served by reopening this type of controversy every year. For another thing, patent matters traditionally tend to move somewhat slowly. This means that experience accumulates somewhat slowly and that it may take time to evaluate, with any degree of care and assurance, the practical effects of changes made in the law.

Accordingly, it seems worth emphasizing that on the present occasion the Joint Committee on Atomic Energy is reviewing the patent and invention aspects of the atom in a way which probably will set the course of our national policy on this subject for the next few years. This gives emphasis to the importance of this occasion.

When I appeared before this Committee during the hearings on the 1954 legislation, I stressed my strong belief in the U.S. patent system as a means of strengthening our country and nourishing our technological progress. During the intervening period I have had opportunities for considerable additional experience and reflection on these matters. My general outlook on them remains the same. I feel today, as I did 5 years ago, that our patent system is one of the important factors which provides the incentives we need. By and large, throughout the history of this country the patent system has

worked well and has contributed greatly to our progress. While there certainly have been occasions when patent abuses occurred, the public interest has best been served by dealing with these by measures which would stamp out the abuses but would fully preserve the good features of the patent system.

It seems to me undesirable to have special departures from the normal patent system, except in areas where special circumstances exist which provide a special need and a special justification.

Atomic energy was an area in which such special considerations existed abundantly in 1946, when the McMahon Act was passed. Such special considerations likewise required recognition when the 1954 legislation was pending although perhaps to a considerably lesser degree.

Our experience during the past 5 years, 1954 to 1959, seems to me to contradict any assertion that atomic energy has by now arrived at a state of normalcy which justifies treating it the same as the more traditional areas of technology. In my judgment, it continues to be desirable and in the public interest to retain certain special legislative provisions relating to atomic energy patents and inventions. Perhaps with the passage of time this will become a matter of diminishing importance. In any event, as of today, in my view, it would be undesirable to discard the general framework of the special legislative provisions which Congress has enacted in this field. In some respects it seems advisable that these provisions should be amended, and this certainly provides an appropriate occasion for such amendment.

COMPULSORY LICENSING

Perhaps the special provision which has aroused the greatest degree of controversy is the provision relating to compulsry licensing of certain patents in the field of atomic energy. In 1954 the Congress resolved this matter by a compromise embodied in section 153 of the act. This gave the Commission an authorization for a considerably restricted form of compulsory licensing. When I say the authorization was limited to a "considerably restricted form" of compulsory form of licensing, I mean that the text of the provision contained substantive limitations as well as procedural safeguards designed to make compulsory licensing available only in urgent cases where the need for it was clearly established, and then only on terms which would require a reasonable royalty to be paid to the patent owner whose patent would be used by someone else.

My own view in 1954 was that a limited form of compulsory licensing authority would definitely be in the public interest. I felt that, particularly in view of the history of the somewhat narrow industrial participation in the atomic energy field to that date, the compulsory licensing provisions would constitute a valuable safety valve to protect the public interest in case of need. In effect, it provided an assurance that new firms might be able to enter important areas of atomic energy work without being blocked off by arbitrary action on the part of a patentee who, perhaps by virtue of an early preferential position established with Government help, had been able to get there first.

Fortunately there has never yet been any occasion for the Atomic Energy Commission to exercise this compulsory licensing power, and indeed it may well be that no such occasion will ever arise. The

1954 act stated that the compulsory licensing provision should apply to any patent the application for which shall have been filed before September 1, 1959.

The Atomic Energy Commission has now come before the Joint Committee with a recommendation that this date be changed, so that the compulsory licensing provision will be applicable to any patent the application for which shall have been filed before September 1, 1964. In supporting this proposal to extend the date by 5 years, the Commission has called attention to the fact that the desirability of patent incentive must be balanced against the possibility of enlarging the preferred position of the necessarily limited number of companies now working in the atomic energy field, many of whom have developed their experience substantially at public expense.

Like many difficult matters of policy which arise in connection with legislation, the compulsory licensing question turns ultimately on judgment. There are many people, for whose opinions I have great respect, who feel that the country would be better off if the compulsory licensing provision were to be eliminated this year. I must say, however, that on the basis of my own experience and consideration of this subject, I think it would be a definite disservice to the public interest to jettison the very limited compulsory licensing provisions at this time. I strongly urge that they be retained, substantially in the form recommended by the Commission, pending the accumulation of further experience.

There is one subsidiary matter on which I should like to add a word. In yesterday's hearing, a question was raised by the Joint Committee as to whether the limited authority to grant compulsory licenses should be applicable only to patents—as the text now intimates—or whether it should also be applicable to pending patent applications in advance of the time that the patent has actually issued. In this connection it was quite correctly stated by representatives of the Commission that an outsider who uses someone else's invention does not become an infringer under the patent law until the patent application has actually matured into an issued patent; that is, his legal liability begins only from the time the patent has issued.

I suggest, however, that this factor does not fully meet the practicalities of the situation from a realistic business standpoint.

If a company is considering whether to make a substantial investment in a new atomic energy project—which may involve investment of some millions of dollars—it could not prudently proceed to do so without some reasonable certainty that it would be able to obtain a license to use somebody else's invention of primary importance to the project. As the Joint Committee has heard, patent applications in the field of atomic energy tend to be processed rather slowly. Hence there may be a period of 4 to 5 years while the patent application is pending and before it ripens into an issued patent. Unless the company interested in the project has some assurance that it could obtain a license in the event the patent were ultimately to be issued, it might be very foolhardy to embark upon the project at all. In this type of case, if the owner of the patent application refused to negotiate a license on reasonable terms, it might be advisable for the Commission to have a reserve power to make a determination promptly that a compulsory license would issue in the event the patent application matured into a patent at a later date.

This might save much valuable time in getting the project underway. Indeed, the existence of such a provision would tend to forestall any occasion from arising where the power might have to be exercised. Accordingly, the Joint Committee might find it desirable to add a suitable sentence to section 153, expressly making the limited compulsory licensing authority applicable also to pending patent applications in suitable cases.

Representative HOLIFIELD. Mr. Toll would like to ask you a question at this point.

Mr. TOLL. Mr. Boskey, is it your reasoning that section 153 only applies by its language now to patent owners and therefore would not apply to a person who has filed an application for a patent?

Mr. BOSKEY. I was careful in the statement I just made to say that the text now intimates that. I am not 100 percent clear that, if the Commission determined it was necessary to effectuate the purposes of the act to put this procedure into motion there was an issued patent, and while there was merely a patent application, that a court would then say the Commission lacked such authority. But I was suggesting that it is too doubtful under the present text to leave it that way if the point is thought to have any importance. I can't see what objection would arise to clarifying it.

Mr. TOLL. Do you have any suggested language which subsection might be amended?

Mr. BOSKEY. No, I don't this morning. I think it could perhaps be done by a single sentence at the end of the section, and I would be glad in the next few days to make some suggestion along these lines. I think it would not require any overhauling of the text as a whole, but just a sentence at the end which said that the foregoing authority also shall apply in like cases to patent applications which are pending. I think it would be easy as a matter of text to do this.

Representative HOLIFIELD. In other words, probably the ending of this chapter now under letter (h).

Mr. BOSKEY. And a subsection (i) could be added which would confirm that the Commission had such authority.

Representative HOLIFIELD. Wherever the word "patent" should be used here, it should be deemed to include patent applications.

Mr. BOSKEY. A man normally would not be entitled to a royalty during a period when he had an application pending. His legal right to royalties begins from the date the patent issues. But in this area where patents may take 4 or 5 or 6 years to issue, you have a long period of gestation on the issuance of the patent, and a long period when, if an outside company on the verge of making a large investment is confronted by the existence of the pending patent application that they are not sure they could get a license to, they might say—and I think their board of directors would be right in saying—we cannot put our stockholders' money into the project until we know we can get a license. If you could not negotiate in a friendly way with the patent application's owner, then I think the Commission should have this reserve power. I repeat it is quite possible that it will never have to be exercised.

Representative HOLIFIELD. There is no infringement on an application for a patent.

Mr. BOSKEY. There is no infringement.

Representative HOLIFIELD. Is it possible to get retroactive damages?

Mr. BOSKEY. No, sir. But who in his right mind would invest $10 million of his stockholders' money in a project which 5 years from now might be subject to a court injunction to stop the project because they are using someone else's patent without authorization. You just do not invest large money in a project that has overhanging it that degree of uncertainty.

Now I am talking about the inventions which—to use the language which you, Mr. Holifield, had a lot to do with putting in the statute—inventions which are of primary importance to the project. I am not talking about those which you can easily design around and use something else. You may have a power project which can only be done one way using one invention. That is the kind of invention we are talking about here.

Representative BATES. Mr. Boskey, what if in the final result this patent was not issued and the applicant had been reimbursed for the patent pending; what would be the situation?

Mr. BOSKEY. I suppose the procedure would be set up so that actually his right to payment would begin with the date of actual issuance of the patent, even though the Commission had held the proceeding earlier than that. You would not be prepaying anything. He would not be getting anything that he would not normally get under the patent law.

Representative BATES. So the actual payments themselves would take place after the patent had been definitely issued.

Mr. BOSKEY. That would be my idea of how to set it up. Any payment prior to that would be a voluntary payment in accordance with present industrial practice. I am sure you know, Mr. Bates, that frequently companies do pay royalties on inventions which have not matured into patents. They are not obliged to by the patent laws, but they do it as a matter of good business judgment. That is a wholly voluntary arrangement. If the company wanted to do that in the period before there was a patent, that would be well and good. But I would think that their legal obligation to pay a reasonable royalty under this kind of procedure would begin as of the day that the patent actually issues, no matter when the proceeding took place.

Representative BATES. So from historical experience you see no need of spelling any of that out?

Mr. BOSKEY. I think that, in the provision I said would require one sentence, that could be done without difficulty. I think textually it would be very easy to do this in a way that is perfectly fair.

Mr. TOLL. Mr. Boskey, how would a person who would request the use of this section know of the pending application before the patent issues since the information in patent applications, as we have found out, would be kept under fairly tight lock and cover.

Mr. BOSKEY. He might not always know. That is a slight risk. I think frequently he would know about it because there is a habit among the companies which are active in this field to give some publicity and publication to their inventions at least after they have a patent application on file. Those inventions which would be basic and of primary importance to a large project are the kinds of inventions that it is likely would be subjected to some publicity.

In addition, remember that under the act as it now stands, the invention will have been reported to the Commission by the Commissioner of Patents under the reporting provisions. If the Commission should see that there is an invention of primary importance to a new project that is coming up, the Commission is not helpless to take the initiative in some sort of a proceeding if need be. You recall under section 153 either the Commission or the man who needs the license has the right and authority to take some initiative. I think that while perhaps you can't say there is a 100 percent assurance that he would find out about the pending patent application, in one way or another it is likely that the kind of provision I am suggesting would do the job.

Representative BATES. Mr. Boskey, I wonder if you can indicate to us the equality in payments between the royalties established by the Commission and the negotiated licensing payments that have been made.

Mr. BOSKEY. Mr. Bates, my understanding is that there has never been yet a case before the Atomic Energy Commission's Patent Compensation Board which required them to establish a reasonable royalty under this statute. So it is not possible to say with assurance what criteria they would use. Even though no case has come up, it is not a field where there is no body of law to turn to. There is a great deal of prior experience to turn to, if you happen to be a member of this Board, faced with this problem. For one thing, industrial practice in many fields is well known. Royalty rates are well known. You can get expert testimony on that. For another thing, the Court of Claims in many patent cases brought against the Government has had the job of assessing reasonable compensation. For a third thing, there are cases in which the courts in infringement suits between private parties have grappled with these problems. I would say that the Board is not writing on a wholly clean slate. It can draw from this whole body of experience and probably would try to come to a fair conclusion that more or less equated the result with the kind of royalty you would get under normal judicial decree.

Representative BATES. You say the AEC has had no cases where they have had to make a determination.

Mr. BOSKEY. It has had no cases. Actually it has never used the compulsory licensing provision.

Representative BATES. If that is the case, why do we consider it to be so important here. Have they recourse to something else in lieu of this, or what?

Mr. BOSKEY. I think there are several explanations of why this provision has never been used. Let me mention what I think some of them are.

In the first place, the great bulk of the patents which have been issued in this field to date are patents which are owned by the U.S. Government. Therefore, they are available to American business. That being the case, as to those patents no such question would arise. We are just beginning to get to the point where the privately owned patents are emerging.

Secondly, as I think you have had testimony before you in the past few days, it takes a long time for a patent to move from the application-filed stage to the patent-issued stage. There is a backlog

in the Patent Office. In normal fields the backlog may run 2 or 3 years. In the atomic energy field, wholly apart from secrecy problems, it tends to run 3 to 4 to 4½ years. If you have a case which started out as a secrecy case, it may run 4 to 10 years, depending on when you get the secrecy order removed. So you still have ahead of you, rather than behind you, the problems that are likely to come up here.

Third, if I may say so, I think the presence of this kind of provision in the statute is itself a moderating influence. In itself it helps to encourage people to act in a reasonable way and not to bring the problem to a head.

Representative BATES. To a large degree the problem is ahead of us?

Mr. BOSKEY. I think so, sir.

Representative HOLIFIELD. I would like to modify that statement a little bit by calling attention to the fact that in section 153a there are certain provisions under No. 1 and 2 by which to judge the type of patent. I wanted the record to show that this cross-licensing actually applies to the invention or discovery covered by the patent is of primary importance in the production or utilization of special nuclear material or atomic energy, and the licensing of such invention or discovery under this section is of primary importance to effectuate the policies and purposes of this act.

The stress that I want to put is upon the word "primary." Therefore, this applies to a limited field. The ordinary small type of patent or insignificant or relatively unimportant type of patent would not of necessity, unless adjudged to be in a different category, be covered by this. The real reason for putting this in was to prevent some one company that had had contractual experience with the Atomic Energy Commission from coming up with a basic patent which would actually give him the opportunity of having a stranglehold upon the complete industry. As a matter of fact, in the judgment of the Commission there has been no such breakthrough of primary importance. But if there should be, this would be protection to the whole industry.

I might say that it applies, of course, to any industry, but the basic thinking of the Congress at the time was that there had only been a few companies that had this benefit of experience. Therefore, they were in an advantageous position to know the techniques of the art, and if suddenly the Government should release its ownership of all patent rights in this field, it would be only natural that those companies which knew the techniques and had the experience would step in immediately and preempt the field by establishing areas of patent equity which, in the opinion of the Congress, would have been discriminatory against the great body of American industry which may not have had the opportunity of close association and development of the art which had been developed at Government expense.

Representative BATES. It refers primarily to a quantum step or a breakthrough. I think your point is well taken.

Representative HOLIFIELD. There has been a great deal of complaint about it, but as a matter of fact, there has been no opportunity to use it, because there has been no quantum breakthrough which could come into the class of being considered of primary importance to effectuate the development of the art or of primary importance in

the production or utilization of this energy. This is a reserve power to prevent monopolistic domination, you might say, of a new industry, whose development is based upon expenditures of public money. I think this is also an additional reason, is it not, Mr. Boskey?

Mr. BOSKEY. I think so, Mr. Holifield. I might say that in this connection the thermonuclear field lies ahead of us, and not behind us. Fusion today is where nuclear energy may have been 15 to 20 years ago. Particularly in that field it seems to me very important to have these reserve powers in the Commission.

Representative BATES. We know that many companies historically have taken many research and development contracts, at a loss, and particularly because of renegotiation clauses. All of the contracts of the company are averaged out for the year concerned without particular reference to a specific contract. That would be quite an advantage to a company if they learned all this basic information and trained their people. It would be the next step that they had in mind.

Mr. BOSKEY. That is one of the main things that Congress had in mind in connection with this legislation.

Representative HOLIFIELD. In your opinion this covers the thermonuclear field as well as the nuclear field?

Mr. BOSKEY. I think there is no question about it. I heard the question you addressed yesterday to the representatives of the Commission. I think that the answer they gave was clear and correct, that the definition clearly covers the thermonuclear field.

Representative HOLIFIELD. In that field there is the possibility of a quantum jump in the conversion of nuclear fission directly to electric energy, so we have been told, without going through all the heat transference and boilers that we have to go through at the present time.

Mr. BOSKEY. We certainly all would have those hopes.

Representative HOLIFIELD. Will you proceed, please?

Mr. BOSKEY. I now move on to discuss very briefly section 158 of the act, which deals with monopolistic practices.

In one of its recommendations, the Atomic Energy Commission recommends that section 158, relating to "Monopolistic Use of Patents," should be deleted. The reason for this recommendation appears to be the feeling that section 158 is superfluous since, wholly apart from section 158, Federal courts in antitrust cases have ample power to decree compulsory licensing as a remedy for the patent owner's abuses of the patent.

I urge that the committee should not delete this section from the act.

I do not disagree with the Commission's statement that the courts have such a power wholly apart from section 158. But it seems to me a salutary thing to keep in the Atomic Energy Act itself this specific reminder of the consequences of monopolistic use of patents in this area. In statutes it is not always an advantage to reduce the language to the barest minimum. The problem of monopoly in the field of atomic energy is a problem in which the Congress has already expressed some interest in other portions of the act. An affirmative and express reminder in the patent provisions seems to me helpful in keeping a proper balance in the statute as a whole.

Representative HOLIFIELD. I am glad to see this part of your statement brought out, because in addition to the reasoning which you present, I have the feeling that in the interpretation of the intent of Congress the courts quite frequently have held that Congress does not act idly in the deletion of certain language from an act. While as the Commission has said, there may be other language that would cover this field, I would be hesitant to remove this language, in view of the fact that some court might say at some time the Congress deleted language which they had put into the act heretofore, and they must have had a reason for so doing, and that reason might be applied narrowly by some court to have a significance which we might not intend that it should have.

Mr. BOSKEY. Mr. Holifield, that always is the problem when language which has been put into a statute is removed from it. I think if you did remove it , you would want to take the most elaborate precautions in your report to explain you were removing it only because it was superfluous and not because you were changing the policy. I don't think it ought to be removed. I think it is a good place to have such a reminder.

I think this bill and this part of the statute is a good place to keep it. A small textual objection has been voiced to the present form of section 158. It has been said that in antitrust cases the courts frequently decree that licenses shall be granted on a royalty free basis, whereas section 158 seems to suggest that there must be a reasonable royalty basis.

Representative HOLIFIELD. I would like to have you consider the exact language of section 158.

Such licensee shall pay a reasonable royalty as determined in accordance with section 157 to the owner of the patent.

Unless the language is contained in section 157 that you refer to that in addition to any other lawful sanction, where is that language found? That is found in section 158.

In the judgment of the court, in its discretion, and in addition to any other lawful sanctions, a requirement that such patent * * * which demonstrates a need therefor.

It would seem to me that this being in a different sentence, it would not modify the mandatory provision that is in the last sentence.

Mr. BOSKEY. Let me try to put in simple language what I think is the argument that was made by the Commission on this point. I think the Commission said, for 25 years in antitrust cases, if a Federal court felt that the abuses of the patent were bad enough, when it got to entering its decree, it would enter a decree that the patents involved in the case should be opened up to people on a royalty free basis. Let me emphasize this is not always done in antitrust cases. Frequently the court will decree that the patent be opened up on a reasonable royalty basis. But in particularly flagrant abuse cases, the court will decree that the patent owner open the patent up on a royalty free basis.

As I understand what the argument is here, it is that there is an intimation here that the patent, if it is opened up to others because of a violation of the antitrust laws, should only be opened up on a royalty basis. In other words, that outsiders or third parties would always have to pay, even though the conduct of the patent owner has been very abusive.

I say on that point that I have never felt that there was much to the argument, just as a textual matter. I always have felt that since section 158 states very clearly that this remedy is in addition to any other lawful sanctions, therefore it is apparent that Congress, when it passed this 1954 statute, never had any intention here of taking away from the Federal courts the preexisting power of those courts to decree that the licenses should be issued on a royalty free basis if under all the circumstances the court thought that was appropriate. I can't imagine that there was any such intention on the part of the Congress in 1954 to invade this preexisting well-established and well-recognized power of the Federal courts. So to me it has never seemed that there is any such textual problem.

I think section 158 still leaves it to the court to enter in its decree a judgment that the patent shall be opened up on a royalty free basis if that is a sanction which the court deems to be lawful and proper in the premises. But I say if anybody really feels there is an ambiguity here, a phrase or a half sentence could be added to section 158 that made it superabundantly clear there was no intention to take from the courts their power to open the patents up on a royalty free basis, if necessary.

Mr. TOLL. Wouldn't it actually be simpler just to delete the last sentence?

Mr. BOSKEY. I think originally perhaps the last sentence was put in to assure that unless it was a case where the court felt it ought to be on a royalty free basis, the Commission would have to allow a royalty. In other words, if the case came to the Commission's board without an order of the court saying it was on a royalty free basis, then the Board would have to allow a reasonable royalty. To me that sounds fair and just. If the court has not found that there ought to be a taking away of the right of a royalty, I don't think the Commission should be allowed to make that judgment or finding. I don't think it ought to be left to the discretion of the Commission. The Commission ought to be obliged to allow a reasonable royalty unless the court in its decree and in its findings has done something which cuts off that right. I feel that is a judicial matter. I don't think it is a matter that ought to be lodged in the Commission for an independent determination. It is the court that ought to decide that, and it ought to be clear that if the court has not decided that, then the patent owner does get his reasonable royalty.

Representative HOLIFIELD. Would the witness submit language which would, in his opinion, clarify that?

Mr. BOSKEY. I would be glad to do that within the next few days.

Representative BATES. Does the word "reasonable" take care of the point you are making?

Mr. BOSKEY. It certainly takes care of it insofar as it defines for the Commission the nature of the royalty. That needs no clarification. The point that conceivably would be helped by clarification is to make it doubly clear that this does not interfere with the power of the court to decree that the patent shall be opened up on a royalty-free basis.

Representative HOLIFIELD. As a matter of fact, legal history would show that where a patent owner had abused excessively, you might say, his patent rights in a monopolistic manner, that the court as a punishment has decreed that they shall make those patent rights available to others on a free basis.

Mr. BOSKEY. It does it partly as a punishment, Mr. Holifield, but also partly as an equitable remedy designed to overcome the effects of the violation of the antitrust laws and restore the industry to a situation where those effects will be wiped out. It is not solely for punitive purposes.

Representative HOLIFIELD. This is the point that is involved in the Commission's criticism of this part of it, and it seems to me that while you do not seem to have the doubt of the meaning of the language, I think the congressional intent would be to follow the normal practices of a court in this regard.

Mr. BOSKEY. I am sure of that. This could be slightly clarified, and I would be glad to make a suggestion.

Representative HOLIFIELD. Unless decreed otherwise by a court of competent jurisdiction.

Mr. BOSKEY. Something like that.

Representative BATES. The point of my inquiry a moment ago on the word "reasonable" was—cannot a reasonable fee be designated as zero under certain circumstances?

Mr. BOSKEY. I would think not, Mr. Bates. I would think it is what is reasonable in the light of industrial practices, and if he is not to get it, it must be for some other reason, namely, the decree of the court that that is a proper remedy to give to other parties under the antitrust laws, and not because the Commission in its judgment has made some independent decision.

Representatives BATES. I am referring to the court.

Mr. BOSKEY. Normally, as I understand the court's practice, the decree either will provide for a reasonable royalty when it opens up the patent, which is just the word we have here, or else it will say on a royalty free basis, one or the other. In other words, the word "reasonable" has a definite content in our experience. A reasonable royalty, as I said before, is one the courts are accustomed to ascertain.

Representative BATES. It would have to go by usage.

Mr. BOSKEY. That is right. Reasonable is a good word in this context to apply where it ought to apply. I don't think "reasonable" ever would be zero. If the royalty should be zero, it is because, for reasons other than the amount of the royalty that is fair, for reasons other than those reasons, the man should not be able to collect royalty. That is for the court to decide.

Let me move for a moment now to section 152.

Representative HOLIFIELD. We are getting a little behind in our schedule, so perhaps we can move along.

Mr. BOSKEY. I will be glad to. I am glad to respond to the questions because sometimes the questions bring out points that may be points of interest and difficulty.

As to section 152, you have heard a lot about that in the past 5 years. Some of the most vexing practical operating problems relating to patents in the field of atomic energy have arisen by virtue of the provisions of section 152 of the 1954 act. These provisions were somewhat hastily drafted at a late date in the history of the 1954 legislation. Their text did not have the full benefit of the informed criticism and analysis which might otherwise have been made, and actually the provisions have on their face a breadth which probably was never intended.

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The Atomic Energy Commission's recommendations would make some substantial amendments in section 152, designed to give very real relief from the unwarranted and unnecessary breadth of some of these provisions. Before discussing this in detail, however, let me mention a general point.

It seems to me doubtful whether there is any real need at all for section 152. The interests of the Government which section 152 is intended to protect are interests which the Commission ought to be able to protect adequately under the administrative provisions of its contracts, and entirely in the absence of any section 152. In fact, during the long period prior to the enactment of section 152, my understanding is that the Commission was able to do just that. I never heard of any case originating in that period where a private party, by mistake or otherwise, ended up owning a patent in the field of atomic energy which really belonged to the Commission under the terms of some contract, subcontract or arrangement.

I assume that if section 152 is to stay in the act it will be modified more or less along the lines recommended by the Commission. Its purpose and effect would then seem to be to erect a rather elaborate and cumbersome superstructure on the administration of atomic energy patent applications, this superstructure being designed to prevent someone by human error from ending up with a patent to which he might not be entitled under the terms of the contract, subcontract or arrangement with the Commission. I suggest the risk of this happening may really be so small as to be negligible. I suggest also that the special machinery set up by section 152 is time consuming and costly both to the Government and to the person who has filed the patent application.

It may be that the Joint Committee will feel additional experience should be accumulated over another few years before any decision is reached to whether section 152 can safely be eliminated from the statute. In that event, it seems to me that the changes now recommended by the Commission in the text of section 152 are, in general, along sensible lines. There are, however, several textual matters which I would raise here.

Although the Commission's purpose is to limit the unnecessary and undesirable breadth of section 152, its amendments would introduce one new concept which might have exactly the opposite effect. The Commission is now proposing to include, for the first time, within the reach of section 152 any contract, subcontract, or arrangement entered into not merely "with" but also "for the benefit of" the Commission. This phrase, "for the benefit of," seems to me far from clear. It may create many of the unfortunate types of problems which the deletion of the phrase "other relationship" is intended to get rid of. Accordingly, it is suggested that, unless there is forthcoming some explanation of this new phrase, "for the benefit of," which shows clearly that its scope will be properly confined, it would be better not to introduce it into the statute.

Representative HOLIFIELD. I would like to do something unusual here, and call Mr. Anderson of the AEC to the witness chair for comment on this part of your testimony, Mr. Broskey. If we eliminate the words "or other relationship with the Commission" as suggested by the Commission, we certainly would not want to put that same

ambiguity back in and I ask you, Mr. Anderson, to comment on that at this point.

Mr. ROLAND ANDERSON. The suggestion for including "for the benefit of" was with the thought that the Commission does not enter into subcontracts. Subcontracts are negotiated by prime contractors. Therefore, if the prime contractor enters into a contract with a subcontractor, the question would be, what was the meaning of the word "subcontract?" Therefore, when you say "for the benefit of," the prime contractor enters into a subcontract for the benefit of the Commission.

Representative HOLIFIELD. Would this have the specific meaning of those words in the intent of the Commission?

Mr. ROLAND ANDERSON. It was our intent to so limit those words.

Representative HOLIFIELD. Would there be any other meaning that might attach to those words, other than the meaning that you have expressed?

Mr. ROLAND ANDERSON. Only in the context of where an arrangement might be entered into for the benefit of the Commission, similarly, not by direct negotiation, but through a prime contractor.

Representative HOLIFIELD. Would you care to coment, Mr. Boskey? I don't seek to have a controversy, but I wish it for the benefit of the committee.

Mr. BOSKEY. I would never find myself engaged in a controversy with Mr. Anderson, even where I disagreed with him. I think with that explanation, it is clear that the Commission has a fairly limited purpose in putting in the words "for the benefit of." One of the troubles is that phrases in statutes sometimes tend to have a life of their own after you get them into the statute. There is a difference of opinion as to what they mean. Actually if they said any contract, subcontract, or arrangement of the Commission, instead of with the Commission, it would probably cover all the cases that Mr. Anderson has in mind, and would be grammatically and semantically accurate, and would eliminate the possibility that somebody might take this phrase "for the benefit of" and 3 years from now start extending it to very distant kinds of cases not in anyone's contemplation.

One thing that troubles me here is that there is a rather elaborate law about third party beneficiary contracts that has been built up over the last 50 years. Frequently, in a loose kind of way, contracts are said to be for the benefit of people who have never heard of them, who have no direct interest in them until they don't get some indirect benefit that maybe was going to be conferred on them. Apparently that is not what Mr. Anderson is talking about here. I would like to be awful careful about it, and I would hope that we could eliminate this particular problem before it arises.

I think substantively there is no difference between Mr. Anderson and myself on this point. It is a matter of language and I do suggest that simple word "of" would be better than "with" or "for the benefit of."

Representative HOLIFIELD. The Chairman will ask Mr. Anderson, representing the Commission, to consider the suggestion that has been made, and if in his opinion there seems to be merit to the suggestion to confer with the staff later on this particular language.

Mr. ROLAND ANDERSON. We would be pleased to do so.

Mr. BOSKEY. A minor textual point arises here in connection with the Commission's recommendation that the last sentence in the first paragraph of section 152 be amended by deleting the word "forthwith" and substituting "as soon as the application is otherwise in condition for allowance." This change has to do with the time at which the Commissioner of Patents forwards to the Commission the section 152 statement which he has received from the patent applicant.

This change would appear to justify the Commissioner of Patents in holding up the forwarding of the statement to the Commission until the application is otherwise in condition for allowance, even though the Commissioner of Patents may have received the statement from the applicant at the very time that the patent application was filed.

I don't see any reason why there should be built into the statute some encouragement of this sort for what may turn out to be a needless delay of 4 or 5 years in simply transmitting to the Commission the section 152 statement filed with the Patent Office. It seems to me if the word "forthwith" is not satisfactory, which is the word now in the statute, it would be better simply to delete and make no substitution and rely on the Commissioner of Patents to be reasonably efficient in sending the things reasonably promptly instead of telling him to wait until the application is in a condition for allowance.

Representative HOLIFIELD. In the testimony given by Mr. Watson, we went into the time lag period which was involved, and it did seem to the Chair that it was an undue time lag to the claimed lack of experienced people in the Patent Office to process applications. It would seem to me that leaving the word "forthwith" in and not accepting the Commission's recommendation would expedite the forwarding of patent applications to the Commission. If the Commission has other problems in mind than expediting the work of the Patent Office, we would like to hear from you, Mr. Anderson, at this time.

Mr. ROLAND ANDERSON. I think our reason for making the original recommendation, sir, was that the next paragraph requires the Commission to file a directive within 90 days. Oftentimes if the application is filed that only means that the man is claiming what he appears to say constitutes his invention. It would appear that for us to have to file a directive within 90 days and start the process of going through either the Board of Interference examiners or the courts, to have a contested proceeding on subject matter which has not yet been defined as to what is the invention, is a sort of futile effort and it would be preferable to wait until the Patent Office has said, "We think this man has invented A, B, and C," and then we get the statement and have 90 days. Up until that time, there is not any subject matter which the Patent Office has passed upon that he is entitled to.

Representative HOLIFIELD. In other words, this would eliminate from the burden of work in your office all of those applications which would not be deemed worthy of allowance.

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. You would only get for your consideration the patent applications which were deemed to be worthy of a patent issue.

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. Can you give me some idea of the burden of applications numerically to the patents issued in the atomic energy field? How many are rejected out of every 10, for instance?

Mr. ROLAND ANDERSON. I think the statement and the figures of the Patent Office on that are set forth in the committee print at page 46. I am sorry. It is page 50. It shows that in 1950, for example, 68 applications are still pending, and 57 have been abandoned out of 207, which is approximately 25 percent that have been abandoned. How many of the other 69 will be allowed is still questionable. I think the workload would be rather tremendous so far as the Commission is concerned, because at the rate of the filings that are being made by private parties, it appears to be an ever-increasing scale, set forth in Patent Office figures on page 46 for the year 1957, 719 were private. If every one of those 719 applicants filed his statement with the Commissioner of Patents at the time of filing, and the Commissioner of Patents forthwith sent them over to us, we would have a tremendous load. I think it depends upon whether or not the applicant filed his affidavit at the time of filing the application or whether he waits until the Patent Office requests it. I think at the present time, from the knowledge I have gained from the Patent Office, it appears that most of the applicants wait until the Patent Office requests the affidavit. This has certain advantages, but if the applicant did file, it would create quite a tremendous burden.

Mr. BOSKEY. Mr. Holifield, I think that there are very strong and persuasive reasons not to accept the Commission's recommendation on this point, and I would like to take just a moment to state them. As Mr. Anderson has just said, under the statute, section 152 gives the patent applicant who files with the Patent Office an option. He may file his statement at the beginning when he files his patent application, or he may wait until 4 or 5 years later when he gets a notice from the Commissioner of Patents telling him that it is now time for him to file, after the patent has been processed. As Mr. Anderson has also said, most applicants, the practice has shown, wait until the end. They are satisfied to wait. I want to put to you and the members of the committee the case which is comparatively rare, but nevertheless important from a business or industrial standpoint, of the applicant who wants to get a pretty speedy determination of whether this invention belongs to him or not. Many things may turn on that. If it belongs to him, as he thinks it does, then he may be prepared to invest ten or fifteen thousand dollars in getting foreign patents. He may be prepared to invest money in promotion of the invention. He may be prepared to do all sorts of things which, if it was going to turn out in a section 152 proceeding that contrary to his belief the invention belongs to the Government, he would not put a nickel in. If in such a case he is advised or he feels that he wants to get his determination at the beginning, I think that it really is not fair to him to make him wait 4 or 5 years. I think he ought to be able to precipitate this ownership controversy at the beginning, if in fact he wants to, and there are good business reasons to do it.

Representative HOLIFIELD. Would the Commission be in a position, however, to claim the patent before the Patent Office made the determination that it was a patentable application?

Mr. BOSKEY. The Commission can make its judgment from the claims stated in the patent application which normally, it is true, will be broader than any ultimate patent issued. That may put the Commission in a position where it feels it has a claim of ownership which it would not have later on if the patent application were narrowed down into its final form. But if the man who has made the invention wants to take that risk on himself, it seems to me he is entitled to do it, and he is entitled to get a determination this year, and not 5 years from now, as to who owns this invention. He can make his foreign filings within the 1-year period permitted by the international convention so he can negotiate with people in other countries to put money into it, if he owns it.

What this is doing, I think, is offering a great discouragement to people who in good faith think they have made an invention with their own money and that they own it, but for some reason they are in a controversy with the Commission about this matter. They should not have to wait 5 years to get this controversy started for adjudication. They ought to be able to get the adjudication early. That means Mr. Anderson's office occasionally may have a little extra workload. It seems to me that is the least that the Government of the United States can do in this area, where it is imposing on the patent system what I call an elaborate cumbersome and costly superstructure.

Representative HOLIFIELD. In other words, your position is that the additional workload which might be involved in the present arrangement is in the public interest.

Mr. BOSKEY. I certainly think it is. Actually I don't think it will be much of a workload because I think it will continue to be true in the future, as it has been to date, that most patent applicants wait until the patent application is in a condition of allowance before they actually file this section 152 statement.

I think there is an obligation to take care of the man who does not want to wait, who has some real practical business decisions to make now and not 5 years from now.

Representative HOLIFIELD. We have had testimony already that in the case of the desire of an applicant for expedition that could be arranged and had been arranged. I think, Mr. Anderson, you might want to elaborate somewhat on what your practice has been in the past, or any rebuttal that you wish to make.

Mr. ANDERSON. No; I think Mr. Boskey has made his point. However, I think so far as the Commission is concerned, if we are given adequate staff we can do the work. But I still seriously question this. The man, as Mr. Boskey points out, claims as broad as the world, everything disclosed in this application. On that kind of basis it is very difficult to reach a reasonable conclusion either before a commission or before a court that it would not possibly be under the contract. As Mr. Boskey points out, when you get to the final analysis of what the man claims and what is granted by the Patent Office to be his invention, the latter may be outside of the scope of the contract. I think this is the serious question I raise. Whether or not a reasonable body of people can reach a reasonable determination under circumstances where a man has claimed everything in his application initially.

I think also there may be some question as to whether or not the Patent Office before the Board of Interferences could determine the

question of priority on subject matter of this nature before they have allowed some claim. I don't know whether or not their procedure permits of this. It could be modified, I am sure, if it does not permit of this kind of action before the allowance of a claim.

Representative HOLIFIELD. Thank you very much.

Representative BATES. I thought that was a minor point, Mr. Chairman.

Mr. BOSKEY. It turned out to have some real substantive meaning for certain types of cases. Now, if I might, I would like to go on and say a word about the foreign problems.

During the past 2 years there has been much discussion, within industry and Government alike, of the numerous problems arising in connection with foreign patents on atomic energy inventions. Volume 2 of the Selected Materials on Atomic Energy Patents, which the Joint Committee has just published, is devoted entirely to these problems.

Some of these problems are undeniably difficult, complex, and indeed perplexing. This is true for a number of reasons which are touched upon in the data already before the Joint Committee.

My own view as to these problems is that attempts at legislative solutions are not likely to prove very helpful. There are no specific legislative provisions which I would be prepared to recommend to the Joint Committee at this time as furthering the public interest in an equitable solution of these difficult problems.

This does not mean for a moment that I think the Joint Committee should lose interest in the problems or in the solutions that may be proposed. Some of the difficulties I think could be minimized if the Commission would show a little more flexibility in the administration of its contracts and a little more willingness to make determinations of rights at an earlier date.

In connection with the existing Euratom legislation, however, there does seem to me to be one patent matter clearly calling for legislative clarification. The Joint Committee will recall that in section 4 of the Euratom Cooperation Act of 1958 there are detailed provisions governing fuel fabricating and fuel life guarantees. The statute specifies that in entering into such guarantee contracts the Commission shall be guided by five specified principles, the fifth and last of which is as follows:

> (e) The Commission shall obtain a royalty-free, nonexclusive, irrevocable license for governmental purposes to any patents on inventions or discoveries made or conceived by the manufacturer in the course of development or fabrication of fuel elements during the period covered by the Commission's guarantee.

I feel reasonably sure that it was never the intention of the Joint Committee or of the Congress that in this connection the Commission should be required to obtain a royalty-free license from the manufacturer on all patents the manufacturer might obtain in the entire fuel element field during the 10-eyar period of the guarantee, regardless of whether the patents might cover inventions on fuel elements of an entirely different type from those involved in the guarantee contract. It seems to me it would be desirable from everyone's standpoint to have a clarifying amendment here which would restrict the scope of this provision to what was actually intended.

Representative HOLIFIELD. I could not speak for all members of the committee on this particular point, but it would be my opinion that the committee's thinking on this was confined to the particular fuel elements used in the particular type of reactor, and not to other types of fuel elements which might be developed by the manufacturer completely extraneous to the Euratom contract.

Mr. BOSKEY. I felt sure of that, Mr. Holifield, because the Joint Committee wanted to get a reasonable quid pro quo from the contractor in connection with the guarantee contract, and the reasonable quid pro quo would not go nearly as far as a loose reading of this language would suggest.

Representative HOLIFIELD. I understand from the staff that there has been some consideration given to this and that there may be in preparation now an amendment to take care of this point.

(The information referred to follows:)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., May 2, 1959.

Hon. CLINTON P. ANDERSON,
Chairman, Joint Committee on Atomic Energy,
Washington, D.C.

DEAR SENATOR ANDERSON: There is transmitted herewith a Commission proposal in the form of a draft bill which would amend section 4 of the Euratom Cooperation Act of 1958 (Public Law 85–846) in several particulars. The proposed legislation, which has been submitted to the President of the Senate, and the Speaker of the House of Representatives today, is attached as appendix A to this letter.

Section 4 of the mentioned act, which pertains to the fuel cycle guarantee portion of the Euratom program, includes principles to guide the Commission in selection of projects. Subsection (c) provides that the Commission shall establish and publish minimum levels of fuel element cost and life to be guaranteed by the manufacturer as a basis for inviting and evaluating proposals.

The objective of subsection (c) was to assure that both industry and the Government would share the burden of fuel cycle guarantees, that private manufacturers would have to provide a certain level of guarantees on their own before the projects involved could qualify for the supplementary guarantees offered by the AEC, and that the liability of the Government would be limited to a reasonable amount.

The committee report on the Euratom Cooperation Act (S. Rept. 2370, 85th Cong., 2d sess.) makes it clear that it was intended that the AEC would publish standards as to the maximum fuel element costs and minimum fuel performance (or life) that private manufacturers would have to meet in order to qualify for the supplementary guarantees offered by the AEC under the program. Subsection (c) is misleading, however, in that it indicates that the Commission will publish minimum, rather than maximum, fuel element costs to be guaranteed by manufacturers. In addition, and more importantly, the language now in the law might be interpreted as requiring the AEC to publish specific numerical values for fuel element performance and accompanying fabrication costs which manufacturers would have to meet for each type of fuel element considered for an AEC guarantee.

We believe that, because of the variation in type and extent of the guarantee which may be offered by private manufacturers, establishment of such specific numerical values is neither practicable nor equitable, nor would it meet the objectives of the Congress to encourage the joint reactor program at minimum cost to the United States. The Commission has established instead a flexible formula which, in effect, permits each manufacturer to calculate, on the basis of his particular element and reactor design, the guarantees which he must offer. This system, employing the principle of pro rata distribution of the maximum contingent liability ($90 million), limits each manufacturer to a proportionate share of the $90 million based on the ratio of the reactor net electrical output to the 1,000 megawatt goal of the joint program, and the ratio of the commercial guaranteed core life to the 10-year period of the program. The proposed amendment will eliminate possible confusion emitting from the phrase "minimum levels

of fuel element cost," and will remove any implication that the Commission is obliged to publish specific numerical values. It will also permit an equitable distribution of the protection under the guarantee program among various manufacturers. Furthermore, we believe it is consistent with the congressional objectives regarding the program.

Subsection (e) of section 4 of the Euratom Cooperation Act states:

"(e) The Commission shall obtain a royalty-free, nonexclusive, irrevocable license for governmental purposes to any patents on inventions or discoveries made or conceived by the manufacturer in the course of development or fabrication of fuel elements during the period covered by the Commission's guarantee."

It has been noted that the wording of subsection 4(e) of the act may oblige the AEC to obtain a license to use any patent or inventions or discoveries conceived by the fuel fabricator during the period of the Commission's guarantee even though the invention related to fuel elements not covered by the Commission's guarantee. This language, which has been severely criticized by industry, permits a broader interpretation than we believe was intended by the Congress. Accordingly, the proposed amendment will relate the patent rights to be received by the Government to the particular fuel elements covered by the AEC guarantees. We feel that limiting AEC license rights to fuel elements covered by our guarantees is reasonable and will be beneficial to the Euratom program in that it will encourage more companies to participate.

The Buerau of the Budget has advised that it has no objection to our submission of these proposals.

We shall be happy to discuss these matters with the Joint Committee at your earliest convenience.

Sincerely yours,

JOHN A. MCCONE, *Chairman.*

Enclosure: Appendix A.

APPENDIX A

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That subsection (c) of section 4 of the Euratom Cooperation Act of 1958 is amended to read as follows:

"(c) The Commission shall establish and publish criteria for computing the maximum fuel element charge and minimum fuel element life to be guaranteed by the manufacturer, as a basis for inviting and evaluating proposals."

SEC. 2. Subsection (e) of section 4 of the Euratom Cooperation Act of 1958 is amended to read as follows:

"(e) The Commission shall receive a royalty-free, nonexclusive, irrevocable license for governmental purposes to any patents on inventions or discoveries made or conceived by the manufacturer during the period of the Commission's guarantee in the course of development or fabrication of fuel elements covered by the Commission's guarantee."

Mr. BOSKEY. I had just two other perhaps minor questions I wanted to raise.

Mr. TOLL. Mr. Boskey, before you leave the foreign rights, if you have volume 2 of the committee print with you, will you turn to page 233? You will find some kind of language in footnote 3 which Chauncey Starr suggested to the committee as an amendment:

> Notwithstanding anything in this chapter whenever the invention or discovery is conceived * * * with the Commission to which the Commission has not waived its claim, the maker of such invention or discovery or its successors or assigns may file a patent application thereon in any country outside the United States, subject to security provisions and regulations. It shall retain the entire right, title, and interest in any resulting patent application or patent, provided that the United States shall be granted for governmental purposes a nonexclusive irrevocable royalty-free license under any such patent application or patent.

Would you comment on that language?

Mr. BOSKEY. This was one of the proposals or suggestions I had in mind when I said there was not any provision which I felt I could recommend to the committee as being in the public interest which would really help out these problems. I understand some of the

problems which Dr. Starr is trying to deal with in making this suggestion. I think the remedy he proposes would be far too sweeping to be something that I would feel I could endorse as being in the public interest. For example, take the case of a large project financed wholly at Government expense. Perhaps the Government has put $20 million into the project and under the contract no money has been put into it by the contractor. In those circumstances, as I understand this suggested language, if an important invention was developed during the course of the contract and the Commission did not waive its rights to that invention, as probably it would not, nevertheless the full foreign title and rights to the invention would go to the contractor subject only to the governmental license in the United States for governmental purposes. What would be the consequences? It would mean, for one thing, that that contractor, if he so chose, would have a right absolutely to exclude other American firms from the market in the particular foreign country in which that contractor decided to take out a patent at its own expense. Suppose, just for purposes of illustration, the contractor took out a patent in his own name under this clause in Belgium. Other American firms which, like you and me, are taxpayers, and whose tax money had been used for the development of this invention, would find under this language that they might be subject to total exclusion from the market in Belgium in the use of that invention. I could not recommend that kind of a provision in that sweeping language to this committee.

Mr. TOLL. What would you think of a provision that would require license royalty free to other American companies who had contributed to these cash dollars but he could charge royalties to foreign or non-American companies?

Mr. BOSKEY. I would certainly say that is a far less sweeping provision. Again, it gets into some very difficult and delicate questions of the foreign policy of the United States, and I am not sure that it is a solution that would be applicable properly to a large part of the cases expected to arise. The United States has made many commitments, as I understand it, to foreign countries, to share the technology. The technology we are talking about sharing is I suppose primarily the technology developed at Government expense in the United States with public funds. The extent to which we should then add onto that an exclusionary feature or even a royalty charge to allow Belgian companies or the Belgian Government to use that technology I think is a rather difficult question.

Mr. TOLL. It is only to that extent that it would be consistent with a normal pattern of other countries. For example, Great Britain, I believe, if you had a Government sponsored invention, and the United Kingdom took out a patent in Belgium, I believe an American firm would be required to pay royalties to the United Kingdom Government or to the United Kingdom firm who was the patent owner. Is that correct?

Mr. BOSKEY. My understanding is that the British have such a policy in general, but I point out that at least they apply it in a nondiscriminatory manner, that is, British and American and other corporations alike pay them the royalty. What would be proposed under the suggestion which we are now discussing is that in fact there be a very direct discrimination as between the Belgian firm and the

American firm. The American firm would then be treated better in Belgium on this patent than the Belgian firm would be treated.

I wonder whether, taking a long look at the history of our foreign relations, it would be a very good policy for the United States to inject this kind of discriminatory treatment? At least I feel one would want to be very careful not to do it on an overall basis. There may be situations where it is justified but there are many nonpatent considerations that enter into it, particularly with a country like Belgium, with whom over a long period of time we have been jointly engaged in some very important aspects of the atomic energy program. I have only used Belgium as an illustration. There are many others. The problems differ because the patent systems in each of these countries are somewhat different.

Mr. TOLL. We could do many other things to demonstrate our friendship and good will and close feeling toward the Belgians. We could point out to them that this is our normal patent law, slightly modified, but normal to the extent that persons who do not own or have contributed to the making of the invention, either through tax dollars or their own inventive nature, have to pay royalties for the use of the invention.

Mr. BOSKEY. One of the troubles is that there is nothing very normal about discrimination. This country has treaties of friendship, navigation, and commerce with a great many countries. If there is one single theme that runs through all those treaties, and has over the last hundred years, it is the idea of nondiscrimination. Nationals of the other countries will be treated on an equal basis with nationals of our country. That is not a one-sided proposition. It is going to be true in the treatment which they accord our nationals just as it has to be true in the treatment we accord their nationals. I say to you, I think you should be very slow to undercut these basic fundamental aspects of foreign policy and very slow to require anyone to put into effect a policy which would run so counter to the things that I think this Government has said it believes in over many, many years.

In the large aspects of our foreign policy, nondiscrimination is really a very, very important matter. To depart from that for some small reason or in some small field will often have repercussions far beyond what anyone has imagined which will in the long run be unfavorable to the interests of the United States.

I had two very small additional points on the AEC recommendations which I wanted to mention.

First I want to say a word on the proposed changes in the reporting provisions in section 151(c), On this, back in 1954, I urged the Joint Committee to give a more reasonable time for reporting inventions. The 1954 statute extended the period from 60 to 90 days. That was a good thing and the Commission now comes forward and say that actually a more reasonable period would be 180 days. I agree. I am not 100 percent sure that you need a reporting provision, but I think we need more time to see whether it is needed or should be eliminated. For the time being I would keep it in the act but I support the Commission's recommendation that the period be extended. There is one little textual problem that bothers me. The Commission wants to clean up the text because there is a certain amount of overlapping in

section 151(c). But I think it is now proposing to take out a little too much. As the text now stands it allows you to make your reporting on the 90th day either after the completion of the invention or the 90th day after you first discover or first have reason to believe that the invention or discovery is useful in the atomic energy field.

You can do it on the later of the two dates. The Commission would take out one of those contingencies. It would take out all reference to the completion of the invention.

I suggest to you that is not a good or fair thing to do. The way the act is now set up, the inventor does know he is not under an obligation to report until he has completed his invention. I realize there is a lot of question that has been raised about what do you mean by "completing" the invention. It is not entirely a self-explanatory phrase, but at least it is a word with some history and some content from other parts of the law. The inventor knows that he is not in default under the reporting provision if he has not completed his invention. He is perfectly safe to wait until he completes it, and then within the specified period he reports.

If you take that out, I suggest you take out the thing on which he can rely and substitute something much more speculative and subjective. He might know before the invention is completed that it is something that will be useful in the atomic energy field, as defined by the statute. The Commission's recommendation therefore would raise the question, does he have to report it right away the day he has the conception, if at that time he really feels in his heart it is going to be useful? Or could he wait until some later date, and if so, how long can he wait? At least this word "completion" gave him an anchor, gave him something he knew he could count on and run his time from that. I suggest that you leave the word in the statute. It has done nobody any harm. It has provided some minimal protection to people, and I think it ought to be left in.

Representative HOLIFIELD. To what do you refer?

Mr. BOSKEY. In subsection (c) of section 151, talking about the last sentence in its present form:

> The report covering any such invention or discovery shall be filed on or before, whichever of the following is the later, either the 90th day after completion of such invention or discovery * * *

The Commission, and I think without any need, would eliminate this clause which says "whichever of the following is the later, either the 90th day after completion of such invention." I say that is putting an inventor into too much jeopardy. There is no need to do it. The statute is all right on this point now, and he is entitled to that kind of protection, I think.

Representative HOLIFIELD. Your suggestion would be a simple substitution of 180 days for the 90th day.

Mr. BOSKEY. That would be my suggestion. If in the earlier part of the subsection it is desired to clean it up by eliminating some duplication in the way the Commission has suggested, I have no objection to that. I think it means the same thing either way.

The only other point I wish to mention is this: The Commission has proposed that there be added a new paragraph to section 157, namely paragraph (d) which would insert an express statute of limitations of 6 years. On that I would say that there is not any need for it

at the moment. There is no demonstrated need. Nobody has been turning up with stale claims that have been allowed. Statutes of limitations are rather tricky things in areas where there may be questions as to when you knew you really had a claim. The atomic energy field, partly because of the secrecy that still surrounds it, is a field where it is not clear frequently just when you will find out you have a claim. I don't think it is fair to put in this 6-year limitation in this form. I see no need at the moment to put it in any form. I think the country would be better off if the Commission would encourage people to file claims and get awards. I think that would act as more of a stimulus to invention, instead of, as in this proposal, sort of choking them off before the claim is ever asserted. So my own feeling, although the point is not a vital one, is that on balance the act ought to be left as it is on this point. If at some time in the future a statute of limitations becomes necessary, then you can consider it on what I would call the next go-round, 2 or 3 years hence.

That concludes what I have to say, Mr. Chairman. I certainly appreciate the opportunity to come before you. My effort in this, as before, has been to be of such help as I could to the committee.

Representative HOLIFIELD. Mr. Boskey, your testimony has been very valuable to the committee. This is not the first time that you have helped the committee in its deliberations, and we appreciate the expert attention which you have given to these problems and the study which you have given to them, and your analysis which will be part of the permanent record. Thank you very much.

Mr. BOSKEY. Thank you, Mr. Chairman.

(Subsequently the following letter was received from Mr. Boskey:)

VOLPE, BOSKEY & SKALLERUP,
Washington, D.C., April 24, 1959.

HON. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation,
Joint Committee on Atomic Energy,
U.S. Capitol, Washington, D.C.

DEAR MR. HOLIFIELD: In the course of my testimony yesterday, there were two items on which the committee requested me to submit suggested language for the legislation being considered to amend the patent provisions of the Atomic Energy Act.

1. The first item was in connection with the possible desirability of adding a provision to section 153 which would make it clear that the Commission has authority to hold compulsory licensing proceedings and to make compulsory licensing determination, if necessary, when an invention of primary importance is still pending in the patent application stage and has not yet matured into an issued patent. This result could be accomplished by adding to section 153 a new final paragraph, along the following lines:

"The provisions of this section shall also be equally applicable to any patent application, in advance of the issuance of the patent, if the application shall have been filed before September 1, 1964: *Provided*, That any determination made by the Commission with respect to such patent application shall not require a reasonable royalty fee to be paid by the licensee to the owner of the patent application for any use of the invention or discovery which shall occur prior to the actual issuance of a patent covering the invention or discovery."

2. The second item was in connection with the possibility that the Joint Committee might wish to introduce a clarifying amendment into section 158, to provide language which would show, even more expressly than the present text, that there has been no intention on the part of the Congress to undermine the preexisting and well-established power of the Federal courts in antitrust cases to enter a decree—if the factual situation warrants it—that patents which have been involved in antitrust violations shall be opened up on a royalty-free basis. Such clarification could easily be inserted if deemed desirable. A simple way to

do it would be to add a new clause at the beginning of the last sentence of section 158, so that the sentence as modified would read as follows: "Except where the court has directed otherwise, such licensee shall pay a reasonable royalty fee, to be determined in accordance with section 157, to the owner of the patent."

Sincerely yours,

BENNETT BOSKEY.

Representative HOLIFIELD. Our next witness is a former colleague of mine in the Congress, Congressman Lanham,

Congressman, we are certainly happy to have you before us, and we will be glad to hear any statement you wish to make.

STATEMENT OF FRITZ LANHAM, NATIONAL PATENT COUNCIL

Mr. LANHAM. Mr. Chairman, I appreciate and thank you for your statement, and I reciprocate fully its friendly spirit. I represent the National Patent Council, which is a nonprofit organization of small manufacturers interested in the promotion and development of our patent system, which system has been an outstanding factor in the development of the progress and prosperity of our country.

Mr. John W. Anderson, the president of that organization, will submit a statement in amplification of my brief remarks.

As you and some other members of this subcommittee know, of the 28 years that I served in the House of Representatives before my voluntary retirement, I was for 25 years a member of the Patents Committee. The remarks that I wish to make will be confied to the proposal before you to extend for an additional 5 years the provision with reference to compulsory licensing of patents.

I am strongly opposed to that provision, and in my judgment any competent patent lawyer who would favor such a proposal would be quite out of line with the general sentiment of the patent fraternity with reference to this important matter.

When the atomic energy bill was pending in the House, I expressed very strong disapproval of this provision and the House, by a large majority, adopted the elimination of that provision. However, in the conference, by reason of necessary speed in getting an Atomic Energy Act in view of certain international conditions and situations, the conferees eliminated that and other provisions that might be controversial and that might delay the enactment.

In the conference report, therefore, the provision was eliminated.

In my judgment, this pending proposal, if adopted, would be an unauthorized and unwarranted legislative amendment of the Constitution of the United States. I think the original proposal, as I then strongly suggested, was also in opposition to the Constitution of the United States. I understand, furthermore, that the Atomic Energy Commission has never resorted to this unwarranted provision, and likely will not. Why then should we extend it for 5 years?

I recall that your predecessor in the chairmanship of this committee, the Honorable Sterling Cole, was very insistent that this provision be striken from the law. The Constitution provides that to promote the progress of science and useful arts, the security of an inventor in his discovery shall be assured. That does not mean "procure for" the inventor the right to his patent; the language is "secure to" the inventor the rights to his discovery. Security means that he will be made secure in that discovery if it complies with the prescribed

requirements. Not only that, but it provides that the patentee shall have the exclusive right to his discovery.

The Founding Fathers were very wise men. They knew the meaning of words. It is a very significant fact that since the adoption and ratification of the Constitution and the Bill of Rights, the subsequent amendments have gone to the machinery of Government, and not to the fundamental principles, despite the fact that those Founding Fathers could not foresee the great development of this country in the sciences and the arts.

So in my judgment this pending proposal is a clear violation of a constitutional right of a patentee. A patent is not a gift from the Government. A patent is something that the patentee has earned and it is granted to him in accordance with our laws.

The other consideration, and a very important one, is that the adoption of this amendment would certainly diminish and perhaps eliminate the incentive of the independent inventors of our country to make their contributions to our progress in this field. We must not allow that creative genius of America to remain dormant. We practically say by this proposal, "All right, you go ahead and invent something worthwhile and we may take it away from you and control it ourselves in spite of your constitutional assurance of security."

A very interesting thing with reference to this latent American genius is this incident. I was invited many years ago to speak in North Carolina at the first of those pageants memoralizing a significant chapter in our history, and I was requested to speak on aviation and to talk about the Wright brothers. There I met the telegrapher who had sent out to the country the notice of the first successful flight of the Wright brothers. He told me that fewer than six leading papers of the United States reported it, but many phone calls and telegrams came in asking what was the mater with that drunken telegrapher. You see, that accomplishment was making the magic carpet come true, and that was supposed to be impossible and a fanciful dream. However, from that achievement has developed our remarkable aviation industry.

I cite that as one instance of what this latent creative force can produce if we do not hamper it by restricting the fundamental rights given under the Constitution.

I thank you, gentlemen, for your courtesy in hearing me.

Representative HOLIFIELD. Congressman, we thank you very much for coming before us. I find that you still have your art of persuasion which you had when you spoke on the floor of the Congress in the years we served together.

Mr. LANHAM. Thank you very much, Mr. Chairman.

(The statement of John W. Anderson follows:)

STATEMENT OF JOHN W. ANDERSON, PRESIDENT, NATIONAL PATENT COUNCIL

My name is John W. Anderson. My residence is 578 Broadway, Gary, Ind. I am founder and president of the Anderson Co., Gary, Ind., manufacturers, since 1918, of patented automotive equipment. I am also president of the National Patent Council, a nonprofit, educational organization of smaller manufacturers of diversified products, inventors, researchers, and other professional groups devoted to the field of science and invention. NPC is dedicated to improvement of public understanding and appreciation of the U.S. patent system as the prime force motivating our American incentive economy.

For nearly 45 years I have been active in the manufacture and distribution of automotive and other products, and have been active in State and national associations of manufacturers. I was cofounder and an officer and director of Automotive Council for War Production of Detroit throughout World War II. I was president of Motor and Equipment Manufacturers Association during 3 consecutive years of World War II and have been for many years chairman of its policy committee. In those and other capacities I have enjoyed many years of opportunity to study problems of manufacturers, from largest to smallest. I have worked closely with many men devoted to invention and research. I have been instrumental in marketing many products embodying new and useful inventions. I am familiar with the incentives that induce men to long, and often sacrificial, creative effort—from the point of recognition of the need for an invention through to its discovery and thereafter its costly development into serviceable form suitable for distribution to the public.

While the Atomic Energy Act of 1946 was pending, I labored, in cooperation with other citizens, to direct the attention of Congress to threats to national security embodied in that act. David Lilienthal, the first Chairman of the Commission, published in 1950 in Collier's a series of articles that, when compared with my statements to Congress, show that the Commission encountered, and the Nation was seriously handicapped, by the very conditions I had predicted would develop. Ample documentation of that fact is available. As an example, in Collier's of June 17, 1950, Mr. Lilienthal said:

"No Soviet industrial monopoly is more completely owned by the state than is the industrial atom in free-enterprise America. The Government has today an ironclad, airtight and all-embracing legalized monopoly of this vast enterprise, and of the new industrial era the development of the atom could bring to this country."

In a bulletin released to Members of Congress under date of July 12, 1946, I stated, 4 years before Mr. Lilienthal published his above-quoted discovery:

"By this bill, as it stands awaiting only the action of the House and presidential signature to make it law, the Government also would control absolutely every industrial use of atomic energy. * * *"

My statement is made in my own behalf as a citizen, as president of the Anderson Co., and as president of National Patent Council.

This statement to your committee deals with substantially the same problems dealth with in my statement to your committee on March 1, 1955—as reference to the record will show.

I have read much of the reported testimony of your present hearings and am greatly impressed with the substantial unanimity of agreement with the position I took in that previous statement. I note with interest the recognition, by the distinguished Committee representing the New York Patent Law Association, of the correctness of the position I took in my previous statement, repeated verbatim in subsection 6 hereof, to the effect that "When our Government, which is presumed to be the entire citizenry, acquires a patent, that patent by every constitutional intent automatically expires. * * *

May I also concur vigorously in the statement of Jo. Bailey Brown appearing on page 36 of the Joint Committee print, volume 1, on "Selected Materials on Atomic Energy Patents," and reading as follows:

"By way of preface to the present memorandum and my comments upon the respective recommendations of Messrs. Ooms and Dienner, it is pertinent to say, as I have set forth in considerable detail in the two prior communications, that I believe that fiat ownership of atomic energy inventions, and the taking out of patents thereon in the United States and abroad in the name of the AEC, is a mistake of policy resulting in much useless expense, producing patents of no practical value as patents, and will be distinctly prejudicial to industrials of this country in their future efforts to compete in atomic energy exploration in foreign countries. I believe the present Atomic Energy Patent Act, in practical effect, is equivalent to providing that most U.S. patents in the atomic energy field do not function as patents, and that patents that would be of material value here and abroad to U.S. industry, if those patents were owned by our citizens, are being in effect abandoned for the benefit of the worldwide public. AEC patents in practical effect seem to be effective merely as publication establishing dates and priorities for defense against later inventors.

"The present atomic energy patent statute substantially lessens the normal incentive to invent, and to exploit patented inventions, in the atomic energy field. I believe the substantial limitation of such incentive by the present law

and practice has retarded, and will continue increasingly to slow invention, improvement, and industrial applications of atomic energy in this country, and will hamper our citizens in their efforts to obtain business in this field in foreign countries."

May I likewise concur in the statement of John A. Dienner in paragraph 13 of his statement on page 35 of that Joint Committee print, as follows:

"13. Outside of the military field, there is nothing concerning inventions in atomic energy which requires treatment any different from inventions in the field of steam, gas, or electrical energy. As I have pointed out elsewhere, the Federal Government has the power of eminent domain. So have the States. Furthermore, if any case of a psychopathic patent owner arose, we could deal with such person as we could with any psychopathic individual. Industry says it is afraid of the compulsory license feature, and I think it would be desirable to remove their fears on this item by revoking section 153."

May I, in all humility, and most respectfully, point out to your committee that if the recommendations of National Patent Council, as presented to your committee in my statement of March 1, 1955, had been heeded fully, much of our embarrassment today in contemplation of our relative position in world competition in the application of atomic energy to civilian as well as military purposes, might have been avoided.

And may I refer, please, to the position taken by National Patent Council with reference to amending the Atomic Energy bill, before its enactment. If that position had been supported jointly by the Senate and the House (it was almost unanimously supported by the House), we might not have been confronted by the story told by Mr. Lilienthal in Collier's of June 17, 1950. The story, unfortunately, has lost little, if any, of its significance since 1950.

Carefull scrutiny of my address of December 9, 1954, entitled "What Feeds Free Enterprise?"—delivered at the annual meeting of Cleveland Patent Law Association—discloses nothing contradicted by events since that day. I trust that that fact may justify inclusion of a printed copy of the address herewith.

Your Joint Committee on this occasion has before it for consideration the patent provisions of "The Atomic Energy Act of 1954."

It is requested, most respectfully, that your committee consider, as inherent in the Atomic Energy Act, the following facts:

(1) The act reflects a high order of skill in draftsmanship in achieving its obvious purpose, which is to set over completely, in the hands of a governmental agency, absolute control of a new source of power far exceeding, in its potential for both civilian and military uses, that of any other source of power heretofore made available for application by mankind. (See secs. 151, 152.)

(2) Sections 152, 153, 154, 155, and 159 of the subject act substantially eliminate inventive incentives, to the individual U.S. civilian capable of, and interested in, a creative contribution in the field of applied Atomic Energy, to expend any time, money, and/or effort to make an inventive contribution in any way related, or adaptable, to the production or application of atomic power. (See also sec. 151.)

(3) Such depression of incentive arises from the denial, by the act, of any independent right on the part of the inventor ever to own, or control, by U.S. patent, the uses of his invention, if he is a citizen of the United States; whereas a foreign national may patent and control, for civilian uses, a similar invention in the United States, without such deprivation. (See sec. 152.)

(4) The Atomic Energy Commission is granted by the act, under conditions that substantially exclude exceptions, power to assert full ownership of any invention or discovery "useful in the production or utilization of special nuclear material or atomic energy," and power to compel the owner or owners of any such invention to license others, under conditions prescribed by the Commission, to use the invention. (See secs. 152, 153.)

(5) Corporations cannot invent. Government cannot invent. Invention is a function peculiar to the individual. A patent grants only a negative right. That right, prior to the subject act, was to exclude all others, for the limited period of 17 years, from manufacture, sale, and/or use of the invention—at the will of the patent owner and to any extent he might desire. The subject act excludes from that traditional function of the U.S. patent system inventions and discoveries "useful in the production or utilization of special nuclear material or atomic energy"—and thus removes, for the citizen, the traditional incentive to invent and produce new things useful in expanding our economy. (See Art. I, sec. 8, of

the Constitution; U.S. Court of Claims decision in *Consolidated Engineering Corp.* v. *United States*, 104 U.S.P.Q. 111, Jan. 11, 1955; and secs. 152, 153.)

(6) When our Government, which is presumed to be the entire citizenry, acquires a patent, that patent by every constitutional intent automatically expires, because there is none left to exclude.

To hold differently is to hold that our Government has become a competitive device imposed upon the citizen and deriving its powers arbitrarily from a source apart from any formalized expression of the will of its people.

The Government, which has granted the patent, in presuming to own it, places itself in the untenable position of having vested in itself, without authority, a right which clearly, by constitutional intent, can be possessed only by the citizen. (See Art. I, sec. 8, of the Constitution. See also pp. 28 and 29 of exhibited address.)

(7) The subject act denies recourse to any court, for injunctive relief, by any U.S. citizen whose inventive property by force of the subject act, has been appropriated by license under compulsion, by the Atomic Energy Commission, for exploitation for profit by a favored citizen or citizens having had no part in the creation of the invention. (See sec. 154.)

(8) The act, instead of merely requiring a license to Government for military uses under "patents granted on inventions, made or conceived during the course of federally financed research or operations," requires that all such patents be assigned to the United States—leaving the Atomic Energy Commission in full control of possible civilian applications and uses of such inventions (sec. 159).

(9) Foreign inventors owning such inventions, for civilian atomic uses, suffer none of the disabilities imposed by the subject act upon the citizen of the United States. Foreign inventors may apply for, and receive, U.S. patents on such inventions, which patents they and/or their assignees, including governments of foreign nations, may control—in line with the intent of the U.S. Constitution and our patent laws based thereon, as they normally and traditionally have applied to the U.S. citizen (sec. 152).

(10) Our Government, through the instrumentality of the Atomic Energy Commission, may make available, and has made available, in foreign nations, reactor installations and inventions related to the production and utilization of atomic energy, originated by U.S. citizens, and also undertakes to teach technicians of such foreign nations—all without any compensation or impelling inducement to any U.S. inventor—the "know-how" essential to most effective use of such reactors and related inventions (25th Semiannual Report of the Atomic Energy Commission, January 1959, p. 89).

(11) In line with precedents established by monopolistic provisions of the Atomic Energy Act, efforts are made to compel the free sharing of costly and hard-earned "know-how" by corporations advanced in practice of a phase of production—with corporations favored, or to be favored, by Government as competitors of the advanced corporation. Was not the stated intent of the original Atomic Energy Act (1946) to "strengthen free competition in private enterprise" and thus prevent the very monopoly granted in the present act to the Atomic Energy Commission? [Atomic Energy Act of 1946—sec. 1(a)—also sect. 1(b) of the act of 1954.]

(12) The subject act, by the above-mentioned and other devices, goes contrary to that stated intent, contrary to constitutional intent and contrary to long-established and fundamental principles of law and have given our Nation its unprecedented growth. The act, as given effect, contrary to pretended intent, concentrates all control over the power of atomic energy, and its myriad of unexplored applications to human needs, in a governmental agency ordered and directed by men not charged with any certain responsibility—or necessarily possessing capacity—for creative contributions in the field of production or utilization of atomic energy (secs. 151, 152, 153, 159).

(13) The act discourages, substantially, and in effect excludes, participation by U.S. citizens in the gigantic task of creating, as has been done in the development and application of every other major source of power, through still-increasing thousands upon thousands of inventions necessary to give greatest effect to the application of such power to civilian and military needs (secs. 151, 152, 153, 159).

(14) Such exclusion of the citizen from his normal creative functions, and such unconstitutional and uneconomic concentration of power in a single supergovernment, perhaps reflects recognition of the sinister significance of the historic statement, attributed to Nikolai Lenin, that whoever controls a nation's

source of power controls its industry and therefore controls the destiny of its people. There are growing evidences, and authoritative predictions, that atomic energy may soon be recognized as our cheapest and most dependable source of power.

(15) The Atomic Energy Act of 1954 should be amended to repeal sections 151, 152, 153, 154, 155, 156, 157, and 158. Section 159 thereof should be amended to read:

"The Government of the United States shall have a free, irrevocable, nonexclusive license, for governmental uses only, under all patents granted on inventions made or conceived during the course of federally financed research, by any person engaged therewith and benefiting thereby."

(16) There rests with Congress today the obligation and authority to repeal sections 151, 152, 153, 154, 155, 156, 157, and 158 of the Atomic Energy Act of 1954, and amend its section 159 as suggested, as the only means by which the vast inventive and productive forces of the United States can be released for a belated beginning toward competing, on equal terms, with other nations, in the vital race of American invention and technology toward national security through supremacy in the production and application of atomic energy.

It is submitted that—

(*a*) The proposed repeal of the five sections indicated, and the amendment of section 159, as proposed, would in no way hamper or impede governmental activities having to do with military applications of atomic energy. On the contrary, such repeal and amendment would bring more effectively into support of such operations that vast reservoir of civilian capacity for inventive diligence that has given our country the security it has enjoyed through its outstanding industrial supremacy.

(*b*) Smaller manufacturers in America have multiplied and thrived, but not often in making products identical to those in manufacture and distribution by large corporations. Big industries, by the very weight of their capital and marketing facilities, ordinarily can assert competitive strength difficult for the smaller manufacturer to match when competing products are identical. The greatest factor in stimulating men to new undertakings in manufacture and distribution lies in an opportunity to offer the public a product made more desirable by a patented or patentable invention which cannot lawfully or rightfully be copied by the mammoth competitor.

The public has been challenged more than once to identify a single product of American industry that does not have embodied in it one patented or patentable invention or that has not been made cheaper and better because of patented or patentable inventions employed in its manufacture. From baker's bread to building brick, it is predicted that you will not find anything coming out of any American factory that is not so qualified.

Thousands of smaller manufacturers that exist today in America, and that provide, in the aggregate, employment to many millions of people, would not exist except for advantages accruing from production of such improved products. The public benefits constantly from the inducements provided by the protection—to inventors and to smaller manufacturers—afforded by the patent system.

No smaller manufacturer would ordinarily copy, for production by him, a product already in wide distribution by a large manufacturer. For these reasons, compulsion on the large manufacturer to permit the smaller manufacturer to copy his products would do the smaller manufacturer, and the economy in general, little or no favors; whereas, compulsion on the smaller manufacturer to let the big fellow run away with his inventions and patents would simply crush the smaller fellow and would discourage him, and all who witnessed his misfortune, from further inventive and developmental work. The surest way to fatten producing and distributing monopolies in America would be to destroy our patent system. The present Atomic Energy Act, in its important field, goes far in that frightening direction.

(*c*) Without reflection upon the patriotism or loyalty of any Americans identified therewith, may I say that no grounds have been found for doubting that if the most cunning and talented of subversive agents of an enemy government, intent upon making us incapable of our own defense, had been give a free hand to dry up civilian sources of inventive contributions to developments in all fields of atomic energy, no more comprehensive, leakproof result could have been devised than is to be found within the above-identified five compulsive sections of the Atomic Energy Act of 1954.

(*d*) The subject act, in effect, places in the hands of a relatively few people, chosen by political procedures, such incentive-deadening coercive powers as feed themselves in the processes of coercion—powers impossible to contain within prescribed channels or areas. Unless at once deprived of its instrumentation for compulsion, the act seems certain to mushroom relentlessly into the most destructive politicoeconomic Frankenstein ever unleashed upon the confused leaders, and the forgotten innocents, of any civilization.

Only a complete reversal of the coercive policy reflected in the present Atomic Energy Act can restore to civilians the traditional incentive, offered by our patent system, to provide, for the service of our people, that dynamic flow of atomic invention without which we can have no reasonable hope for national security.

The tyrannical concept—dominant in the present act—that creative contributions can be coerced, embraces a fatal fallacy discredited in human existence. And inventive incentive does not thrive under featherbedding of lush appropriations, but springs instead from eager effort on the part of the individual citizen to earn and acquire, for himself, economic security through sharing modestly in the wealth he creates for others.

Only by substituting—for the discouraging penetrations of compulsions under the subject act—the eager flow of invention from an encouraged citizenry inspired and unafraid, can we repeat our phenomenal performance in other fields of applied power and restore, by thus enlisting the practiced creative muscle of its diligent people, America's power for survival.

It is suggested, most respectfully, that National Council will welcome any request by your committee for cooperation in supplementation of the facts herein discussed.

There is submitted, as largely pertinent, with each of the multiple copies hereof, a printed copy of the address entitled, "What Feeds Free Enterprise?" above referred to.

It is hoped that perusal of that address may direct, from long experience in the field of invention, production, and distribution, further light upon the problems above discussed.

Representative HOLIFIELD. At this time, Mr. Olson, will you and Mr. Anderson come forward?

STATEMENTS OF L. K. OLSON, GENERAL COUNSEL, AND ROLAND ANDERSON, CHIEF, PATENT BRANCH, ATOMIC ENERGY COMMISSION

Mr. OLSON. Mr. Chairman, I have listened very attentively to the testimony of the many witnesses that have appeared here. I believe I came into this issue without bias. After listening carefully to the witnesses who have appeared, I am convinced that the Commission's submission to this Joint Committee is still sound. We feel that it is the right position.

Representative HOLIFIELD. I might ask, Mr. Anderson, did you have any comment to make on the last comments of Mr. Boskey, which referred to the modification of 151(c) and the statute of limitations, section 157(d)? Do you care to say anything further on that? Would his suggestion of substituting the 180th day for the 90th day and leaving the text as it is do any violence to your intention?

Mr. ANDERSON. I think not. However, our feeling was that the word "completion" has been subject to a great deal of criticism, and that anyone who had completed his invention would certainly have complied with the other two possibilities, namely, he would have discovered or had reason to believe that his invention was useful, and therefore there was no necessity for continuation of the completion provision in the statute.

Mr. TOLL. Is it possible that the determination of a matter of fact as to a completion date might be easier than a determination as to dis-

covery or belief, if one is faced with trying to decide whether or not the inventor complied with the statute? It might be easier to provide the fact as to when the invention was completed. But as to when he first discovered or believed that it was useful is a more difficult matter. That would be the only criterion left.

Mr. ANDERSON. I think they are both difficult, Mr. Toll. It is true that it may be that completion has some definiteness about it that belief would not have.

Representative HOLIFIELD. The word "completion," however, does have a legal history of interpretation; does it not?

Mr. ANDERSON. Not in the patent sense, sir. In the patent sense, they have used the term "actual reduction to practice" for the term "completion"? Yet the term "completion" does have some definiteness, I believe, in ordinary common parlance, but not necessarily as applied to patents.

Mr. TOLL. Should the statute say that the report shall be filed on or about 180 days after the invention is reduced to practice?

Mr. OLSON. Mr. Toll, I would like to point out a problem that concerns us in this connection. I believe that the phrase "completion" leaves a good deal to the discretion of the inventor. I don't know what the intention of this committee is, but if it was your intention to require that all of these matters be reported within the prescribed period or within a reasonable period after completion, I believe the word "completion" would put within the inventor's hands a means for withholding this information indefinitely without forfeiting any rights that he might have under the award system.

Mr. TOLL. My point though, Mr. Olson, is that it is just as much in his hands, if not more so, to say when he discovers or believes. By elimination of that word, you are putting it even more in his hands, it seems to me.

Representative HOLIFIELD. In other words, what would you think of this type of a substitution:

whichever of the following is later, either the 180th day after the reduction to practice of such invention or discovery, or the 180th day after such person first discovers or first has reason to believe that such invention or discovery is useful in such production or utilization.

Mr. OLSON. As Mr. Anderson said, we would have no strong objection to that. I simply wanted to invite the attention of the committee to what we considered the possibilities of the word "completion." We felt it might leave it more in the hands of the inventor.

Representative HOLIFIELD. Does the phrase "reduction to practice" have a more definite meaning in the Patent Office than the word "completion"?

Mr. ROLAND ANDERSON. I think it does, sir. However, I would suggest the addition of the words "actual reduction to practice" so as to get around the question of do you mean constructive reduction to practice, because that is taken care of in section 151 d. where the Commissioner of Patents reports the applications to the Commission. Many of those are not completed before the applications are filed and the filing of the applications constitute what we call in the patent profession constructive reduction to practice.

I would think, therefore, in order to make the two sections sort of consistent with each other, one would use the phrase "actual reduction to practice".

Representative HOLIFIELD. Mr. Boskey, could we have a comment from you on that?

Mr. BOSKEY. Mr. Holifield, I would see no objection to substituting the phrase "reduction to practice."

Representative HOLIFIELD. Actual reduction to practice.

Mr. BOSKEY. Either "actual" or merely "reduction to practice." I am looking for an objective external event that the inventor knows that his time begins to run from, and not when he woke up in bed one morning and felt he has something that somehow would be useful. But something he could look at and say, "This is the day my time starts to run, so I know I must report it, and if I don't, I am subject to some very important penalties." That is why, in my opinion, there should be an objective standard. There are some penalties. You lose some valuable rights.

Representative HOLIFIELD. Would you construct the language as I suggested, or would you eliminate the part which says after such person first discovers or has reason to believe that such invention or discovery is useful?

Mr. BOSKEY. I would leave it in and not eliminate it because I can envisage a case where at the time it was reduced to practice, the inventor did not have any reason to think the invention would be useful in the atomic energy field, but something might happen 5 months later that would make it obvious that it was useful in the atomic energy field and for the present at least I would think you would want to have that reported to the Commission. So I would leave the structure of the statute the same with this verbal substitution.

Representative HOLIFIELD. The next is 157d. Would you want to comment on this period of limitation and what the purpose of the Commission was in suggesting that?

Mr. ROLAND ANDERSON. It was our feeling in order to encourage these people to come in. If you have a statute of limitations, you may encourage them, because they know they have to come in within a certain period of time. It was this thought we had when we made this suggestion.

Representative HOLIFIELD. As the law now is written, there is no period of limitation, is there?

Mr. ROLAND ANDERSON. We think that there is a period of limitation by virtue of the fact that these cases are appealable to the courts. The two sections that we base our recommendation on, namely, 28 U.S.C. 2401(a) and 38 U.S.C. 286, which applies to civil actions and patent infringement suits, by virtue of the fact that the Compensation Board proceedings are applicable to the courts would be applicable to the proceedings at the present time. However, it was only to make this point clear that we felt it worth while to include the provision.

Representative HOLIFIELD. You have been unable to formulate a patent policy under this act which would provide American industry as a whole some type of protection to this apparent competitive advantage which foreign manufacturers have in view of the fact that they operate in a patent royalty position with their Government, while the American patents claimed by the AEC have been made available not only to American manufacturers, but to European manufacturers.

Mr. ROLAND ANDERSON. The question, as I understand, Mr. Holifield, is, do you deem that the foreign manufacturer has an advantage over

the American manufacturer because traditional policy of the United States has been to grant royalty free licenses whereas foreign governments charge royalties both as respects their own domestic patents and with respect to their foreign patents.

I think that Mr. Boskey pointed out under the general international arrangements each country has its own patent policy, and there has been included in international arrangements the provisions against nondiscrimination. So an American industrialist can go into England or France or Belgium, and he may have to pay a royalty for something which he would not have to pay in the United States. Therefore, the feeling has been expressed that the foreigner can come into the United States and get a free license under our traditional policy. Whether this is just a difference in national policies that results in this, I think as we testified yesterday there is nothing in the Atomic Energy Act that would prevent us from charging royalties if it was deemed necessary to equalize this in connection with our foreign picture.

The U.S. Government could charge a royalty of a foreign corporation and at the same time of an American industrialist for the use of a French patent in France owned by the Commission. I think if we were going to discriminate against foreigners and only charge foreigners, you run contrary to the nondiscrimination policies.

Mr. TOLL. Mr. Anderson, I can see where it would be difficult or embarrassing for our Government to charge foreign governments or foreign countries royalties, but if the policy were that we allowed the contractor to take out the patent in his own name, even though developed with U.S. taxpayers' money, and he would then be required to license all other U.S. industry royalty free because it could be argued that they had helped to pay for that invention as taxpayers, then that patent owner would be in a position to charge non-U.S. citizens royalties if he so desired. It would be less embarrassing for him to do so than for the U.S. Government to charge royalties.

Mr. ROLAND ANDERSON. I don't know if it would be any more embarrassing for the Government to do it than permitting a private contractor to do it with the approval of the Government. I think we might be subject to as much criticism one way as the other, in carrying out such a policy. I think this is a matter of judgment.

Mr. TOLL. The actual transactions would actually be carried out by the patent owner, and it would be both more easy to administer, and would not put the Government directly in the position of collecting royalties or bringing infringement suits.

Mr. ROLAND ANDERSON. In the latter aspect, it would mean that you would contemplate that the private party would be obligated to maintain the patent and sue on the patent in a foreign country to protect the American industrialist position.

Mr. TOLL. I think it would be a little premature to say whether he would be in a position to bring infringement suits or to enjoin use of the invention by others who had not contributed to the making of the invention.

Mr. ROLAND ANDERSON. You might get into a situation, Mr. Toll, under such a circumstance, in the atoms for peace program, where we were contributing part of the moneys that were going into the foreign development and we would be paying royalty to a foreign company who happened to get the contract over an American company because

of the patent that had been granted to an American company. This could be said not to be a Government operation because it would be a foreign contract operation.

Mr. TOLL. It probably would not be the first time that the American taxpayer has been on both sides of that sort of situation.

Mr. ROLAND ANDERSON. That is correct.

Representative HOLIFIELD. Are there any further remarks that you gentlemen wish to make for the record?

Mr. OLSON. Thank you; no.

Representative HOLIFIELD. Thank you very much for your testimony and your assistance to the committee, gentlemen, during these hearings.

The hearings on the patent legislation will be closed as of this time, and the record will be held open for the insertion of material which will be pertinent, and which has been requested or proposed to be submitted to the committee. The record will be held open for 2 weeks for the submission of documents.

The meeting is adjourned.

(The following statements were received for the record:)

PRINCETON UNIVERSITY,
COMMITTEE ON PROJECT RESEARCH AND INVENTIONS,
Princeton, N.J., April 16, 1959.

HON. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation, Joint Committee on Atomic Energy, Congress of the United States, The Capitol, Washington, D.C.

DEAR MR. HOLIFIELD: It is our understanding that the Subcommittee on Legislation of the Joint Committee on Atomic Energy is scheduling public hearings on atomic energy patents from April 21 to April 24, 1959. In connection with these hearings, there are enclosed several copies of a statement concerning "Revision of Atomic Energy Requirements Concerning Inventions Conceived During AEC Contracts With Colleges and Universities." We hope that you will find this statement pertinent to your deliberations and will take it into consideration in connection with any possible amendments to chapter 13 of the Atomic Energy Act of 1954.

For your information, the enclosed statement has been approved by the Committee on Project Research and Inventions of Princeton University, which committee is responsible for the administration of the patent policy of the university.

Sincerely yours,

RAYMOND J. WOODROW,
Executive Officer.

REVISION OF ATOMIC ENERGY REQUIREMENTS CONCERNING INVENTIONS CONCEIVED DURING AEC CONTRACTS WITH COLLEGES AND UNIVERSITIES

(By Raymond J. Woodrow, Princeton, N.J.)

Section 152 of the Atomic Energy Act of 1954, and the proposed revisions as prepared by the Atomic Energy Commission dated March 13, 1959, both, in effect, give to the Government the title to all inventions made or conceived in the course of any contract, subcontract, or arrangement entered into with or for the benefit of the Commission. In the contractual article which is regularly used to implement this provision, both a contractor and its employees are forbidden to assert any claim for pecuinary award or compensation under the provisions of the Atomic Energy Act with respect to inventions or discoveries made or conceived in the course of the contract. Theses provisions are inequitable to universities and colleges who perform research under contract with the AEC on a no-fee-or-profit basis, and frequently at less than cost. They are likewise inequitable to university employees who perform research on the contracts from the Commission, and conflict with the patent policies of the institutions involved, as well as forcing changes in this employer-employee relationship.

The majority of universities now have established patent policies goverening inventions made by employees during the course of their employment. The attached patent policy of Princeton University illustrates one of the many variations which are used. Typical of most such policies, however, is the concept that both employee and the institution have an equity in any invention made. This generally follows from the fact that, as stated in the Princeton patent policy, "unlike common commercial practices, university charges, and salary scales are not based on the expectation of income by the University from inventions" (p. 1, A., 4). In other words, the institution's charges in connection with research performed do not compensate the institution for its equity in inventions arising out of its furnishing of funds, facilities, and environment which made the research possible, and the salary paid to university employees is not considered a compensation for inventions made.

The principle that the Government should have title to all inventions made or conceived under any AEC contract seems to be based on the concept that the contract itself provides just compensation for all such inventions, even though only the contractor's costs, or less than his costs, may be reimbursed. Such a concept seems unwarranted in the case of the university which has a patent policy like that of Princeton University, and inequitable both to the institution and to its employees. The university does not give title to inventions to other sponsors of its research merely by reason of their providing funds for research. Other Government agencies likewise do not take the position that the mere execution of a contract for research constitutes just compensation for title to all inventions resulting from the research.

Other effects upon AEC contracts for research which follow logically once the basic premise of Government title to inventions is accepted, are also difficult for a university to accept and to reconcile with its normal policies and methods of operation. For example, in order to secure title to inventions for the Government, AEC contracts provide that the Government shall also own all technical data, drawings, notebooks, and memoranda of every description relating to the work; a professor has a natural antipathy for procedures which would issue, identify, and recall as Government property the notebooks in which he records his scientific ideas and conclusions. To implement Government ownership of foreign patents on inventions, restrictions on publication are imposed by AEC because of the differences between the foreign patent laws and those of the United States; again, a concept is introduced which clashes with the normal university environment of free interchange of ideas and prompt publication.

From a university standpoint, therefore, it would appear both equitable and desirable that section 152 of the Atomic Energy Act of 1954 be repealed, and that inventions made or conceived during Commission contracts be handled in the same manner as for contracts from the Department of Defense, grants from the National Science Foundation and the Public Health Service, and so forth.

PRINCETON UNIVERSITY, PRINCETON, N.J., PATENT POLICY

Approved at meeting of the faculty December 1, 1952

A. Basic objectives

Patents are created by the Constitution and the Laws of the United States to recognize the ownership of inventions by individuals in return for publication of the inventions by issued patents and ultimate dedication to the public after the limited period the law grants patent protection. The basic objecives of Princeton University's policy as to patents include the following:

1. To maintain the university's academic policy of encouraging research and scholarship as such without regard to potential gain from royalties or other such income.

2. To make inventions resulting from university research available in the public interest under conditions that will promote their effective development and utilization.

3. To assure that inventions resulting from university research will not be used to the detriment of the public interest by the unnecessary exclusion of any qualified user or by any other means.

4. To provide adequate recognition and incentive to inventors through a share in any proceeds from their inventions since, unlike common commercial practices, university charges and salary scales are not based on the expectation of income by the university from inventions.

5. To advance and encourage research within the university with the funds accruing to the university from its equity in those inventions which result from research supported by funds or utilizing facilities administered by the university, or other inventions which are handled through the university.

6. To recognize the equity of any outside sponsor of research within the university by making reasonable and equitable provision for the granting of limited patent rights to the sponsor, consistent with the university's basic objectives above outlined.

B. The Committee on Project Research and Inventions and the Research Corporation

The Committee on Project Research and Inventions, hereinafter referred to as the "committee" is appointed by the president and acts for and administers the university's patent policy as regards the university, its faculty, employees, students, and outside sponsors. Research Corporation, hereinafter referred to as "research" is a nonprofit foundation which distributes its total net income as grants-in-aid of research to colleges, universities, and scientific institutions. As stated in its charter, it was established to receive and to acquire inventions and to render the same more available and effective in the useful arts, to provide means for the advancement of scientific investigation by contributing the net earnings of the corporation to scientific and educational institutions, and to receive other moneys and property and to apply the same to the objects specified.

It is not the university's policy to take title to an invention or patent. The university has, however, entered into an agreement with research whereby if the committee recommends the assignment of an invention to research and it accepts this assignment, research patents and commercializes the invention without expense to the inventor and agrees to pay a share of the gross income to the inventor. The net income from the invention after the payment of the inventor's share and special expenses in connection with the invention is shared between the university and research. The university in turn allocates its share of net income received from research for further research and scholarship, the committee and president making the allotments. In doing this, preferential considera- will be given to proposals for the use of funds derived from any particular patent by those working in the field of research from which the invention arose.

In the interests of the individual because of the complexities and expenses involved in handling patents, and in the interests of the university because of its equity in inventions as described herein, the university recommends that a faculty member, employee or student who makes an invention refer the same to the committee for handling through research, as above outlined. It reserves the right to consider every invention presented on its merits in order to decide whether it should be presented to research for its consideration.

C. Relations between the university and faculty, employees, and students

All faculty members, employees and students, in consideration of their membership in the academic family and the approval of this policy by the trustees and the faculty of Princeton University, agree to handle inventions and patents resulting therefrom as follows:

1. Any faculty member, employee, or student may refer any invention to the university or may apply for a patent on his own initiative. If an invention is referred to the university, the inventor will agree to follow its recommendations as to how the invention should be handled, and to execute all necessary papers to handle the invention as decided by the university. If an invention is not referred to the university and a patent is applied for on that invention, a copy of the patent application, when filed, shall be furnished to the university, If necessary, as a substitute for a copy of the patent application, the university may be furnished with a notification of filing and an explanation of the Government security regulations or other conditions which make the furnishing a copy of the patent application impossible.

2. When an invention is referred to the university, it will review the merits of the invention and will decide whether the invention should be referred to research or whether other steps should be taken to patent, assign, or license the invention. If it so decides, the university may return the invention to the inventor to handle on his own initiative, reserving, however, any equity it may have in accordance with this policy.

3. The equity of any faculty member, employee or student who makes an invention and the equity of the university shall be established by the university in conference with the inventor. Unless there are unusual equities, division will be made as hereinafter provided. The university will consider that it has an equity in any invention which results from research supported by funds or utilizing facilities administered by the university or any other invention which is handled through the university. The university will consider that it has no equity in inventions which do not result from research supported by funds or utilizing facilities administered by the university and which are patented by the inventor on his own initiative. The payment of salary, fellowships and scholarships or similar stipends shall not of itself constitute any basis for an equity by the university in any invention.

4. For any inventions which result from research supported by funds or utilizing facilities administered by the university, and which are assigned to research, the inventor will be paid 15 percent of the gross income received by research and the university's equity will be considered to be its share of the net income remaining. For such inventions which are not assigned to research, the university's equity will be considered to be 40 percent of all moneys received from the assignment, license, or use of the patent without any deduction for expenses.

5. For any invention which results from research not supported by funds and not utilizing facilities administered by the university, but handled through the university, an arrangement will be negotiated with the inventor so that he will receive a percentage of the gross income received by research, which percentage will be in excess of 15 percent but not to exceed 40 percent, depending on the circumstances of each particular case. Any amount in excess of 15 percent will usually be deducted from the university's share in the net proceeds of the invention to be received from research.

6. No assignment or license or agreement to assign or license any invention resulting from research supported by funds or utilizing facilities administered by the university in which the university has an equity may be entered into by any faculty member, employee or student without the written consent of the university. The university shall have the ultimate right to resolve any conflict of interests arising in this connection with third parties or organizations. The basic objectives cited in section A of the patent policy will serve as the criteria for approval of assignments, licenses, and agreements to assign or license.

7. When the university and an outside sponsor enter into an agreement for research to be conducted with funds or facilities provided by such sponsor, any individual who utilizes such funds or facilities may be required to enter into an agreement as to inventions arising from such utilization.

8. If a dispute should arise between an inventor and the University with respect to the provisions of this section C, the question shall be referred for decision to a board of arbitration composed of one representative nominated by the inventor, one by the university, and a third member selected by the two representatives thus chosen.

D. Relations with outside sponsors

It is the intent of the university in accepting grants or contracts from outside sponsors for the purpose of research: That sponsored research projects will operate within the framework of the university staffed mainly by regular members of the university; that the work undertaken will in general be of a research, rather than of a developmental nature; that the research will be related to the educational program; that it holds promise of contributing substantially to the general fund of knowledge; that it is of sufficient interest and importance to be undertaken enthusiastically; and that the conditions of the contract or grant covering the project will interfere as little as possible with the regular university procedures and policies. These criteria will be modified only to the extent absolutely necessary in the case of projects of urgent national interest.

When an outside sponsor of research desires a formal agreement covering inventions and patents, the provisions of such agreement will be negotiated with the university in accordance with this patent policy and with particular attention to the objectives cited in section A thereof.

SYLVANIA-CORNING NUCLEAR CORP.,
Bayside, Long Island, N.Y., April 16, 1959.

Congressman CHET HOLIFIELD,
Chairman, Legislative Subcommittee,
Joint Committee on Atomic Energy, U.S. Congress,
The Capitol, Washington, D.C.

DEAR CONGRESSMAN HOLIFIELD: I understand that your subcommittee has scheduled for April 21–23 hearings on the patent provisions of the Atomic Energy Act. In this connection, I would like to call your attention to pages 4 through 10 of the statement which I submitted to the Joint Committee in connection with the "202" hearings this year. I am attaching a copy of that statement for your reference.

Once again I would like to reemphasize our concern, expressed on page 8 of my attached statement, lest the patent provisions of the National Space Administration Act be construed by the Atomic Energy Commission as a mandate to pursue more restrictive patent policies under the provisions of the Atomic Energy Act. I believe that a strong expression of congressional intent to the contrary would be most desirable at this time if the incentive that patents provide to development of a thriving nuclear industry is not to be completely removed.

Yours very truly,

LEE L. DAVENPORT, *President.*

(The pertinent part of the statement follows:)

STATEMENT OF DR. LEE L. DAVENPORT, PRESIDENT, SYLVANIA-CORNING NUCLEAR CORP.

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Another area in which we feel there is a vital need for development of increased incentive is the area of patents. As I have suggested in past testimony, this is an area which has traditionally provided a forceful incentive to the initiation and development of new products and industry in our country. In our own industry, in which normal economic incentives are currently absent, the patent incentive takes on added significance. However, despite the agreed-upon need for acceleration of the nuclear power program, present policy pursuant to section 152 of the Atomic Energy Act of 1954 offers little, if any, patent incentive to American industry at home or abroad.

Section 152 of the Atomic Energy Act still provides that the Commission shall retain all patent rights to discoveries and inventions made or conceived under any contract, subcontract, arrangement, or other relationship with the Commission regardless of whether Commission funds are involved. While this section permits a waiver of the Commission's rights, general waivers by the Commission of its patent rights have in fact been confined to limited areas such as inventions resulting from access agreements or facility licenses. Beyond this, Commission patent policy has been stated to be one of making licenses under its patents generally available to the industry on a nonexclusive royalty-free basis and consistent with security requirements. In addition to similar nonexclusive rights in the nonatomic energy field (the "outfield") frequently granted directly to Commission contractors for practice of the contractors' inventions, the Commission, in very few cases, may grant directly to a contractor exclusive rights in the "outfield" against all but the Government, together with nonexclusive rights in the atomic field (the "infield").

* * * * * * *

Such nonexclusive rights as the Commission offers generally to the entire industry may serve to make new techniques and know-how more widely available. However, any company, particularly in the absence of other economic incentive, would obviously be loathe to spend its own funds on an original development or subsequent commercial exploitation of an invention that its competitors may freely copy.

Furthermore, the great preponderance of all work in our industry in the past has involved some degree of relationship with the Commission. Thus, in view of section 152 of the act and the policies developed pursuant thereto, the area for private patent development has been extremely limited. Under these policies patent incentive has been lacking even in such areas as fixed price production contracts with the Commission under which industry in this still new, experi-

mental and highly competitive field, has operated at great financial risk and frequently at considerable financial loss.

Under virtually all present proposals for acceleration of the domestic power program continued close relationships with the Commission, financial or otherwise, may be anticipated. If the present patent policies are to be continued, the obvious resulting limitations on patent incentive may militate against the very objectives of any such domestic acceleration program.

The absence of a workable patent program is also extremely damaging to American prestige and commercial opportunity abroad.

There appears to be a real possibility that nuclear power will soon be economically feasible in many foreign countries. In this background foreign governments have pursued an aggressive program of encouraging development and exploitation of patents in the nuclear field. Under the laws of many foreign countries private companies are permitted to and in fact have developed and are now exploiting impressive patent portfolios.

Our own Atomic Energy Commission may permit individual companies to file patent applications abroad on inventions developed in the course of any relationship with the Commission. However, this procedure may only be pursued subject to the proprietary rights of the Commission. The bilateral agreement program in turn protects such patent rights as the Commission may have abroad. From the point of view of American industry all of the foregoing merely serves to protect Commission licensees under such patents against infringement claims by third parties. However, the protection thus afforded to American companies abroad may be obtained less expensively by simple publication without the necessity for expensive patent filings.

In any event, neither Commission-held foreign patents nor the bilaterals provide American industry with any of the positive marketing and negotiating advantages normally associated with a proprietary patent position. Indeed, foreign companies obtaining, pursuant to bilateral agreements, information developed by American companies, may be in a position in some instances to file for patents in their own countries on the basis of such information and subsequently enforce such patents against American companies.

Recognizing the problems with which American industry has been faced particularly in its efforts to engage in marketing or other arrangements abroad, the Commission had begun to liberalize its attitude toward patent filings in foreign countries. Unfortunately, however, there have already been indications that the recent enactment of the National Aeronautics and Space Act of 1958, with its all-encompassing provisions for Government ownership of patents developed in that field, has given the Commission pause in its liberalized program. At this point, therefore, there is a vital need for a clear-cut expression of legislative policy with respect to development and ownership of patents in the nuclear field. In this respect, it should be noted that the discouraging patent situation in the atomic energy field was, at least until passage of the National Aeronautics and Space Act, unique not only in all fields of commercial enterprise but also in the areas of other Government contract work.

Recognizing the legitimate interest of the Government in any inventions developed pursuant to Government contracts or through use of governmental funds, we would propose that legislation be enacted which would provide for a policy similar to that presently followed by the Defense Department. Under Defense Department contracts, the contractor normally retains full proprietary rights to all patents developed. The public interest in the expenditure of governmental funds has been amply protected by the grant of a nonexclusive, royalty free license to the Government for governmental purposes under all inventions developed under the contract. Perhaps even more significant service is rendered to the public interest by the added incentive which is by the Defense Department's policies to investment of private funds in development and exploitation of new processes and techniques valuable to the Government in its defense efforts. This Defense Department system has provided a proven example of policies sufficiently flexible to reap the benefits of competitive enterprise in times of peace without sacrificing the need for an easily expandable system to meet the needs of unforeseen crises.

One final point is perhaps deserving of mention in connection with the above comments on the patent program. It has been stated that the avowed purpose of chapter 13 of the Atomic Energy Act of 1954 and the Commission's policies pursuant thereto has been to protect the smaller companies against the predatory patent policies of larger companies. It has been suggested that these companies

in turn may have developed a substantial part of their patent position with the help of Government funds. There may, in fact, have been some logic to this argument at the beginning of the development of our industry when virtually all work was concentrated in and through the Government. This logic, however, becomes increasingly thin with increased investment of private funds in the development of nuclear power and the indicated goal of accelerated private development of our industry. Furthermore, in the absence of normal short-range economic incentives in our own industry, the additional absence of normal patent incentives has probably worked a greater hardship on smaller companies than on larger competitors. Traditionally small companies have looked to the development of one or more significant patents with which to effectively compete with the often overwhelmingly large portfolios of larger companies. Smaller companies have been unable to develop such significant patents and their existence and continued business success have been threatened. The antitrust laws provide effective and timely remedies for smaller companies against unreasonable patent and other restraints. The larger companies are presumably in a better position to indefinitely subsidize their participation in this industry even in the absence of immediate economic incentives. For similar reasons they are also in the best position to develop patent rights under the 1954 Atomic Energy Act through the use of private funds. It is relatively small business with limited financial resources that must be provided with some short-range incentives if it is to survive. By the same token, in the absence of normal economic incentives of a nongovernmental enterprise, it is the relatively small company which is most dependent for its survival upon the fruits, patent and otherwise, of its Government contracts.

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GRAF, NIERMAN & BURMEISTER,
Chicago, Ill., April 17, 1959.

Mr. JAMES T. RAMEY,
Executive Director, Congress of the United States,
Joint Committee on Atomic Energy,
Washington, D.C.

DEAR MR. RAMEY: It is the purpose of this letter to offer some comments which is hoped will be of constructive nature in connection with proposed amendments of the patent provisions of the Atomic Energy Act. This letter is not written in behalf of any client or any legal or technical society, the material herein expressed being purely personal.

Although I have views on most of the issues which have already been fully argued by others, the essence of which is reported in the Selected Materials Joint Committee print on the subject, the mere expression of views is not the function of this letter. Frankly, like most of my confreres who have studied the matter, I cannot see any reason whatever, theoretical or practical, why the considerations in the atomic energy patent law are any different from those in any other field and feel that no special legislation is either necessary or desirable; to any extent that existing or proposed special atomic energy patent legislation has merit, such merit clearly extends far beyond the atomic energy field and should be considered in connection with general revision of the patent laws and of the relation of Government agencies thereto. But I am realistic enough to realize that atomic energy patent legislation will not be merely repealed, and that constructive suggestions by persons in the best position to give them are desirable.

In the discussion which follows, the "proposed amendments" occasionally referred to are those at pages 17 to 21 of the Selected Materials.

Section 152

This section presents a number of separate and distinct questions, of which individual and distinct discussion should be undertaken if a desirable statute is to be reached. The distinctness of these questions has not, in my opinion, heretofore been adequately brought out.

(1) Should Congress specify the patent rights to be reserved by the Commission, or any other administrative agency, in its contracts? This is essentially a political question of intragovernmental relations, on which I pass no opinion.

(2) Should such a specification, whether by the Commission or by Congress, be applicable to transactions in which there is no expenditure of funds by the Government? No reason can be seen for such applicability. Any argument that it is desirable because private inventions may flow from Government information is equally applicable to all Government services, of informational or other character, whether in the atomic energy field or any other field. It is conceivable that there could be particular cases where such a provision in a no-expenditure contract of some type might be warranted, but the small likelihood of this, when coupled with the inherent contracting power of the Commission, irrespective of statutory specification, is completely inadequate to support any reasonable argument for such a statutory provision, unless it is believed that the entire patent system is not in the public interest.

(3) Should any rights to private inventions be vested in the Commission by operation of law, in the absence of contract, as in the case of "arrangements" or "relationships" other than contracts? I have never seen a description of a situation in which it can reasonably be asserted that such vesting is required or desirable in the public interest, again unless it be believed that the entire patent system is not in the public interest. Should there be any situations envisaged, however, they should be the subject of careful legislative draftsmanship; it ill becomes the U.S. Congress to employ such ridiculously vague language as "arrangements" or "relationships" to avoid squarely facing the question of defining what is intended.

(4) Can it be expected that overbroad language in such a specification will be substantially mitigated by conferring a right of waiver in the Commission? Both logic and past experience indicate that it cannot and should not. Basically the right of waiver is a right to give away property of the Government. For the selfless, capable, and devoted men whom the Commission has fortunately been able to attract and retain to represent its interests in these matters, the giving away of Government property is, and should be, a grave matter resorted to only in the most obviously extreme of circumstances, as in the absurd matters of the access permits and licenses. The likelihood that the waiver right will be employed to correct statutory errors of a more subtly cancerous nature is small, and properly so.

(5) Should any statutory specification of Commission patent rights under contract require outright title in the Commission rather than some form of license? This is certainly the most difficult of all questions presented, and I find in the discussions previously presented no analysis greatly helpful in resolving the apparently sound arguments on both sides. However, as I see it, the problem has been oversimplified by each side in this controversy by failure to distinguish between the various types of contractors involved. An optimum patent policy requires that a careful balance be made between providing contractors with sufficient incentive to promote technological progress and giving away rights; inadequate attention has heretofore been given to finding a solution to the problem of rights in the atomic energy field which adequately recognizes that this balance will reach different results, depending on the type of contractor involved.

In this discussion, I classify Commission contractors and subcontractors in three groups: (I) Companies whose research and development personnel are not of particular proficiency in the atomic energy field as such, the company's interest being primarily in the "outfield" such as general manufacturers of pumps, valves, nonnuclear electrical instruments, etc. (It will be understood that the term "company" refers to a particular laboratory or development location at which contract work is to be done, and the research personnel at that location, other activities of a legal corporate entity being immaterial.) (II) Companies in what may be called the atomic energy Government contract business, i.e., companies whose personnel are proficient in the atomic energy field, but most or all of whose investment in research and development is reimbursed by the Government, and (III) companies in the atomic energy field on a primarily private commercial basis, i.e., in which the reimbursed Government contract research and development investment is small compared to the company's own investment in atomic energy research and development.

In the case of group I companies, the obtaining of "outfield" patent rights, as under the present type C clause, appears to present substantial motivation for entering into the contract beyond the notoriously illusory direct profit realized in these circumstances. In the case of group II companies, on the other hand, the direct profit realizable from the "Government contract business" (the financial advantages of isolating Government contract activities in

the present proposal, like the existing statute, deals only with "infield" rights, and the A, B, and C clause distinctions deal only with "outfield" rights).

(6) Should any special type of statement or affidavit by an inventor be required in connection with atomic energy patent applications? The apparent purpose of the present provision is to prevent the Government's being defrauded of its right to title to inventions. There is no particular vice in such a provision except the trouble and expense caused to patent applicants and the delay of 3 months or more caused in the issuance of patents (which could in some cases be a serious matter). However, there should be required some form of published regulations as to the requirement of "full facts." It is also to be noted that the present statute, employing the terms "in the course of, in connection with, or under the terms of" a contract, obviously intends to have the applicant describe connections with a Commission contract which do not necessarily entitle the Commission to the patent, such as, for example, a statement that the invention is an improvement on a device developed under a previously completed contract, thus enabling the Commission to make further investigation of its rights. Nevertheless it is the much broader language of this reporting provision, not the language of the first sentence of paragraph 152, which has for 5 years been used by the Commission in its contract patent clauses. Incredible as it may seem, the various vociferous critics of AEC patent policy do not appear to mention that the onerous "in connection with" clause which has been represented as being universally used in AEC contract patent clauses is "statutory language" only in an irrelevant sense, as is presumably confirmed by the qualification in the appeal portion of section 152 wherein it is apparently made clear that only certain types of "connections" are intended to "entitle" the Commission to the application or patent. It will be noted that the Commission's proposed amendment deletes "in connection with," and conforms the reporting clause to the language of the first sentence, so that this portion of the reporting clause would become merely a requirement of an empty and uninformative "affidavit of honesty." Further this conformity leaves no meaning whatever for the "entitling the Commission" clause in the appeal provision.

Sections 153 and 154

The inherent vice of provisions like those of sections 153 and 154 is that the effects go far beyond the avowed purpose. Broad discussion of the advisability of compulsory licensing can produce polemic argument and great heat without extending much beyond mere broad statements of principle. My concern (and I believe that of the national welfare) stems from the fact that under the compulsory licensing provisions as presently stated, there is a clear invitation to simply disregard patents in the field. The concern of the advocates of these sections is that patent rights may be used to obtain a monopoly in the field by refusal to license. Under the existing language, however, it appears to me that there is no incentive for a company about to engage in an atomic energy activity to either ascertain whether a particular construction is patented, or in the event that the existence of a patent in known, to approach the owner for a license. The present provisions clearly encourage an attitude of "I'll pay if you catch me." There is no incentive for seeking out a patentowner and arranging a voluntary license if there is no penalty for simply proceeding to infringe the patent in the hope that the owner will not find out about it (which is always a substantial possibility) and then arranging a voluntary or compulsory license if and when the infringement is discovered. A compulsory licensing system, whether in the atomic energy field or any other field, that has safeguards against this tremendous, but unintended, impairment of the value of patents could conceivably be justified. In the absence of such safeguards, however, the unintended effects which have no direct relation to the real purpose of the proponents undoubtedly far outweigh the intended beneficial effects. Unless there can be found some alteration which makes a distinction between one whose conduct is of the type contemplated by the compulsory licensing proponents and one who merely uses the provisions as a tool for the disregard of patent rights of others, it is my belief that the evil is much greater than any conceivable good, and that the compulsory licensing provisions should be abandoned.

Section 155

This section should either be repealed or made applicable only to materials which are published within 6 months of the date of declassifiability under ap-

making Government contracts "pay" being well known) may well be sufficient motivation to the company; furthermore, where substantially all the know-how which a company possesses was obtained at Government expense on its previous contracts, the company's claim to patent rights under a new contract may well be tenuous. The full serious impact, however, of present section 152 provisions is felt in group III companies, particularly those of insufficient size to have separate Government and private laboratories and personnel. Today the outstanding examples of group III companies are in the isotope and nuclear instrument field. However, it is to be hoped that more and more manufacturers of nuclear power equipment will fall within this category, by gradual transition from group II. Serious consideration must be given to the possibility that the present patent practices under discussion will be, and quite possibly have been, a critical deterrent to such a transition, since the combination of the financial loss involved in conducting private development of commercial products and Government development contracts in the same facilities, when coupled with the elimination of possible acquisition of patent rights as a motivation, makes such a transition difficult, if not impossible. The accuracy of this evaluation is reinforced by observation of the manner in which certain of the large corporations which have long been in the Government contracts atomic energy business have set up "geographically divorced companies" (within the meaning previously assigned this term) for their private atomic energy business. Presumably such enterprises are avoiding, and will avoid, the problems of transition herein outlined by gradual shifting of personnel, etc., as atomic power becomes a more profitable business. Needless to state, such avenues of transition are open only to corporations having sufficient Government contracts to support separate Government facilities, and sufficient capital to justify investment in separate private facilities against the day when their operations may be profitable. Certain of the corporations adopting this "solution" appear in general to be least voluble in objection to present statutory provisions concerning patents. It will be of great interest to observe the effect of this ability to divorce Government and private operations on the competitive positions resulting from the large and apparently growing number of reactor patent applications filed by private persons and companies in 1955 to 1957 (Selected Materials, p. 59).

The likelihood of monopoly or oligopoly in atomic power stemming from this ability to avoid the serious effects of present patent practices could well be far more serious than the possibility that change of present patent practices as regards group III would create "patent monopolies" over atomic power. It is to be noted that the financially soundest isotope and nuclear instrument companies, which are now in group III and have no separate Government contract facilities, never went through a transition phase, and have been extremely reluctant to donate to their competitors, through Commission patent ownership, the inventive know-how of their scientific and engineering personnel, developed over the years at great unreimbursed cost, by now entering into Commission development contracts. It is believed that such contracts as have been made by these companies have been primarily motivated by such factors as desire to cooperate with the Commission, public relations, and similar considerations. It is too much to hope that such motivation, whether in the isotope and nuclear instrument industry or in the nuclear power industry, can be made the long-run backbone of great advances in technology.

For all of these reasons it may be desirable that henceforth, companies (appropriately defined as mentioned above) whose activities are primarily in the atomic energy field, and who have, for at least 3 years prior to execution of a Commission contract, spent of their own funds sums for research and development in the atomic energy field at least equal to the expenditure for which they were reimbursed by the Government under other contracts in the same period, shall retain title to inventions made under such new contract, subject to a nonexclusive royalty-free license to the Government for governmental purposes. The possible benefits to the purposes of the Atomic Energy Act, by stimulation of private investment and by aiding in prevention of incipient, or at least possible, oligopoly, and in other respects, some obvious and others less so, are believed to be substantial. It may be noted that the difficulties of administration of such a policy are far less than those involved in the nebulous distinctions in status now used to determine eligibility for A, B, and C clauses (which would presumably continue to exist, since

industry from spending its own money in research and development and from employing its best technological know-how in this important field.

A manufacturer in the atomic energy field, like in any other competitive field, must underwrite the substantial investment that he must make in research and development to maintain his competitive position. Let us say that a device which has some utility in the peaceful application of atomic energy results from this research and development. Design and feasibility studies indicate that the device has definite commercial promise since it solves an existing problem in the field. As is presently the case with practically all inventions in this and other fields, the device is not a basic invention since inventions in all fields are usually mere variations in or combinations of elements all of which have either been generally known or in public use for many years. However, if he becomes involved with the Atomic Energy Commission, he stands to lose this development if it gets caught under the broad and sweeping language of section 152. This provision, all in all, has had a very significant discouraging effect on industry.

If the new device were in a field other than the atomic energy field, patent protection would give the manufacturer an opportunity to recoup his research and development costs. Further, if it proved to be of some competitive advantage, let me assure you that competitors would not sit still and watch their sales decline, but would be stimulated to develop new designs that equal or surpass the patented design. In the long run, both public and progress in the field stand to benefit by this usual way of operating under the patent system. The stimulus provided to a competitor who must seek an alternative way of performing a function covered by an existing patent very often leads to very significant advances in the art.

In view of the fact that private industry has always contributed the essential experience and know-how and now is also contributing very substantial amounts of capital and know-how to the application of atomic energy, there appears to be no justification at the present time why there should be special patent laws for atomic energy.

It is recognized that billions of dollars of public funds have been invested in atomic research and development and that it would be unconscionable for any individual or company to obtain a dominant position because of its relationship with the Government. However, in view of the fact there are no basic patents in this field and in the light of today's participation by industry in the field of civilian application of atomic energy such fears are no longer well founded. Private funds are now paying for a substantial amount of atomic research and development.

In recent years many small businesses have entered into the atomic energy field. It was feared at the time the 1954 act was being passed that a few large companies had the lion's share of the atomic energy work and that if the patent system were to operate in this field that these companies might firmly entrench themselves in this field through acquisition of patents. It has now been established that a large share of the work is being done by specialized small businesses whose technical skills are necessary in the performance of a contract with the Commission. Such small businesses as subcontractors have been given waivers by the Commission that were not in the prime contract because business to a large extent depended upon their maintaining their technical position. The patent privilege should be given to anyone who makes a patentable contribution. Small business will benefit the most by restoring the normal operation of the patent system in this field.

It is hoped that the subcommittee will make a thorough study of sections 152, 153, and 154 and recognize that the atomic energy industry has come of age. It is no longer a dependent offspring of a governmental subsidy but has reached a level of maturity that entitles it to independence. It needs the spur of the patent system and a loose rein in our free enterprise system if its full potential is to be realized.

There appears to be no compelling reason why the ownership of a patent need be legislated by statute as is the case under section 152. Conceivably there may be some justification for the Government acquiring title to inventions made under contract with a research laboratory whose sole business is research and if such is the case, title should be acquired by negotiation. The situation is quite different where the AEC contractor is a manufacturer who is in the competitive business of selling products useful in the production or utilization of atomic energy. The patent provisions in any Government contract situation should be established by negotiation.

plicable secrecy statutes and regulations. There still remains, and probably always will remain, a mountain of undeclassified material of a nature such that it is considered of insufficient importance to justify the time and trouble of declassification. Where material is deemed of such unimportance as to be not worthy of publication by such means as distribution to depository libraries or public sale upon becoming declassifiable, it is a violation of justice to permit the digging up and declassification of old records to defeat the claims of a patent applicant who was barred by law from even knowing about the prior use or knowledge of his invention. In such cases, as a maximum, the Government should have immunity from suit.

Section 157

Continuance of the Patent Compensation Board is desirable despite the caliber of the matters which have in general been brought before it. Continuance of the award system has served, and will continue to serve, the obliquely useful purpose of demonstrating the merits of a patent system, as opposed to an award system, in stimulating technological development.

The statute of limitation provision in the proposed subsection (d) is of a type unknown in American law. The patent laws have a provision which limits damages to those accruing within 6 years prior to the filing of suit. They do not, however, nor does any other statute, provide that an entire claim for a continuing cause of action is barred by failure to bring a suit within a fixed period from the date of the first accrual of the continuing damages. The proposed amendment is rendered even more objectionable by the absence of any requirement that the claimant has known of the existence of the cause of action. In view of the peculiar nature of the rights created by the statute, wherein the value might not be known for many years, the desirability of a statute of limitations of any type is seriously questioned, to the extent that the rights and procedures have any value.

Section 158

This section should be repealed. It could conceivably be interpreted as a limitation in the atomic energy field on the powers of courts under the antitrust laws.

It is my hope that at such time as general principles are decided upon, and a draft bill prepared, the members of my profession, particularly those having specific interest in the atomic energy field, will have opportunity to examine the specific proposed legislation and to point out narrow details which are likely to cause practical problems. We are clearly on the verge of the stage at which the patent provisions of the Atomic Energy Act will come into play in actual business relations between private parties and litigation in the courts. The continuance of these provisions in their present form is apparently universally agreed to be undesirable. The passage of new legislation containing well-intended generalities based on speculations as to what might happen, as opposed to what has happened, is a luxury which the Nation can no longer afford. The new legislation must be, and undoubtedly will be, given careful word-by-word consideration before its passage, and it is my hope that the present memo may be of utility in pointing out some aspects which may not have been previously considered.

Yours sincerely,

LEONARD G. NIERMAN.

ALLIS-CHALMERS MANUFACTURING CO.,
Milwaukee, Wis., April 20, 1959.

Hon. CHET HOLIFIELD,
Chairman of the Subcommittee on Legislation of the Joint Committee on Atomic Energy, House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HOLIFIELD: We appreciate having the opportunity of presenting our views and recommendations concerning patent policies and procedures of the Atomic Energy Commission and possible amendments to the Atomic Energy Act of 1954 on which public hearings are to be held by your subcommittee on April 21, 22, and 23.

As general patent attorney of a company which is active in nuclear power research and development, I have found that the Atomic Energy Act as it is presently administered is depriving those who are engaged in atomic energy work of highly desirable and necessary incentives. In effect, it is discouraging

As a matter of general policy, I would recommend that the Commission should not acquire title to any inventions other than weapons covered by section 151 and then only for security reasons. In most all other cases the Government should acquire only a paidup nonexclusive license to practice any invention made or conceived under any contract, subcontract arrangement or any other relationship with the Commission.

I believe that our competitive economy stands to benefit by having the usual commercial practice apply in the nonmilitary atomic energy field. A manufacturer in this field will be assured of the protection afforded by the patent system and can confidently make an investment in research and development in this important field without the fear that competitors will share in the fruits of his efforts without sharing the costs. The inevitable result that follows is that many more new products will be introduced into the market thereby strengthening our economy.

For the foregoing reasons, I believe that now is the time to restore the normal operation of the patent system to the nonmilitary atomic energy field. More specifically, I would recommend that—

(1) Section 152 of the Atomic Energy Act of 1954 be amended by deleting the first sentence thereof in order to eliminate the language which automatically gives the Commission title to all inventions in the atomic energy field made or conceived under any contract, subcontract, or other relationship with the Commission; and

(2) Sections 153 and 154 relating to compulsory licenses be repealed.

May I again express my appreciation for having the opportunity to present these views. I sincerely hope that they may serve some useful purpose.

Very truly yours,

KIMBALL S. WYMAN,
General Patent Attorney.

DARBY & DARBY,
New York, N.Y., April 21, 1959.

JOINT CONGRESSIONAL COMMITTEE ON ATOMIC ENERGY,
U.S. Congress, Washington, D.C.

GENTLEMEN: The committee on patents of the association of the bar of the city of New York has adopted the following resolution:

"Recognizing that under existing law, outside of the Atomic Energy Act, no injunction may issue to hamper governmental activity or other activities affected with the public interest, this committee believes that the time has now come to permit the field of atomic energy to be treated the same as the other useful arts with respect to the application of the patent statutes and case law.

"Therefore, we recommend that the Atomic Energy Act be amended to delete chapter 13: Patents and Inventions, sections 151 to 160, inclusive (42 U.S.C. 2181–2190) and so allow the benefits of the existing patent statutes and case law to apply to atomic energy."

Respectfully,

FLOYD H. CREWS,
Chairman, Committee on Patents,
The Association of the Bar of the City of New York.

COMBUSTION ENGINEERING, INC.,
New York, N.Y., April 24, 1959.

HON. CHET HOLIFIELD,
Subcommittee on Legislation,
Joint Committee on Atomic Energy,
U.S. Congress, Washington, D.C.

DEAR MR. HOLIFIELD: Attached is a statement containing the main point Combustion Engineering wishes to make with respect to atomic energy patent policies. We would appreciate it if you would circulate this statement to other members of the Joint Committee and have it inserted in the record of the hearings.

Sincerely yours,

ARTHUR J. SANTRY, Jr., *Vice Chairman.*

Combustion Engineering wants to urge consideration of one main point. The Constitution of the United States gives the Congress the authority to establish a patent system in order "to promote the progress of science and useful arts." The "exclusive right" given by the Constitution as a means of promoting science and the useful arts has a far greater effect as a stimulant to technological growth than has been heretofore recognized.

By giving to inventors the exclusive right to their inventions and discoveries, the Constitution has provided a means for the inventor to obtain remuneration for his idea based upon the value of that idea in the marketplace. The point to be emphasized is that by giving the inventor the exclusive right to the patent, the public gains through forcing others who want to compete with the inventor to think of new ways of accomplishing the same ends. This is a much more difficult kind of competition. It forces all of the people in the field to be on the alert for new ideas.

Let us give some examples from the boiler field. At the end of World War II boilers were producing steam at about 1,500 p.s.i. pressure and 1,000° F. temperature. The boilers worked on what is called natural circulation; namely, through the difference in the heat in the water inside the boiler and the water that is outside the boiler. This difference causes the water to circulate merely through the application of the heat. Combustion Engineering obtained the rights to, and started building boilers with the principle of controlled circulation; namely, through having the circulation of water controlled by pumps. By means of this development Combustion has been able to design and construct boilers that operate at 2,750 p.s.i. and at 1,000° F. One of Combustion's competitors then obtained the rights to the Benson boiler from Germany. This is a boiler in which the water passes through the boiler only once in a continuous fashion in going through all of the different elements of the boiler. Using this system, boilers operating at 4,500 p.s.i. and at 1,150° F. have been constructed. Combustion Engineering then was able to obtain the rights from Switzerland to the Sulzer monotube boiler and has designed boilers producing 5,000 p.s.i. operating at 1,200° F. In other words, the patent competition between the companies keeps each company looking for new ways to produce more steam more efficiently and to find ways to meet the latest designs of its competitors—that its competitors cannot use.

There is one very notable example of this general kind of development in the atomic energy field. One of the outstanding developments of the British atomic energy program was the construction of the gas-cooled Calder Hall type reactor. This was a different kind of a reactor from any that had been constructed in the United States. Sir Christopher Hinton in a speech given before the Institute of Fuel in February 1957, and published in the April 1958 issue of "Atom," had this to say about the start of the Calder Hall type reactor:

"In August 1946, the McMahon Act had been passed in America and except in certain limited fields of research, all technological information from the United States had been stopped. The McMahon Act withheld information on the design of their reactors and we had to think for ourselves; in doing this we were able to work out our own approach and produce results which led to our present position of leadership."

The fact that the British were not able to use the American designs forced them to think independently and to come up with a new design which has proven to be so interesting that many in the United States want to pursue the ideas in that design further.

There appears to be some confusion in the thinking of the Atomic Energy Commission between information concerning technological progress and the right to use that information. In the patent program the information about patents is published and is known to all. This is done through the Official Gazette of the United States Patent Office. However, the rights to use the information published are not granted, and those who want to compete with the ideas that are patented have to develop their own ideas in order to achieve that competition (this competition is the competition of equivalents and not the competition of identical items). There is nothing in the Atomic Energy Act of 1954 which in any way changes the difference between distribution of information and the right to use the information.

The fact that the research for which the patents may be awarded is research which if financed by the Federal Government, should not, in my opinion, make any difference in this respect. The main question to ask is the question of which way will provide the greatest technological advance. The question not

to ask is the question of who buys what rights. The Department of Defense of years has permitted contractors to keep title to their patents. By doing this the contractors have been able to develop and add to their regular commercial lines around the ideas that are developed under Government contracts. By this method of development, our technological advance for the defense industry has been rapid and many unforeseen benefits have come from this type of development.

One good example of the fruits of this method of handling patents arising out of Government-sponsored research was given by Adm. Earle W. Mills, president of Foster Wheeler Corp., in the 1953 hearings of the Joint Committee on Atomic Power Development and Private Enterprise. At page 198 of those hearings he testified:

"Admiral MILLS. That started in the early 1930's, Mr. Cole. Of course, we had what we considered to be for that time a reasonably satisfactory diesel engine but we were handicapped by the amount of power we could take out of it. The only way we could improve the operational ability of the submarine was to get a higher speed diesel and to get one that we could take more power out of for less weight.

"We surveyed the field in Germany. We also surveyed the field in the United States. We chose, with the help of that information which we got from Germany, to make a domestic development of the diesel engine, and we interested four of the leading diesel engine manufacturers in this country and gave additional information to a number of others who might be interested in developing this field, and we came out with a fast-running, light-weight diesel engine which not only enabled us to realize the ultimate from our submarines from the development that had taken place up to that time, but it also served, like most other developments, a purpose which we did not realize at the time—the basis for the dieselization of the railroads today. I say that because it was the light-weight, fast-running diesel engine which made it possible for the railroads to realize the gains they have made in utilizing that engine in locomotives.

"Representative VAN ZANDT. You can add also the trucks on the highways.

"Admiral MILLS. Yes, sir. Anything that can utilize a light-weight source of power has benefited from that investigation and development."

To ask how the patents can be obtained so as to prevent a monopoly from growing up is also to ask the wrong question. Again the question should be which is the method by which technological advance is attained quickest. The antitrust laws have adequate means for preventing monopolies as has been evidenced over the recent years. Indeed, the Atomic Energy Commission, in its proposed bill, seeks to have section 158 of the act (Monopolistic Use of Patents) repealed on the grounds that there is already enough power in the antitrust laws to provide the kind of relief afforded by this section. This factor should not be the major decision in deciding how patents can be obtained.

Combustion Engineering would, therefore, like to urge that the Joint Committee consider this difficult problem solely from the point of view of finding the best way to speed our scientific advances, and not from the point of view of deciding a question of title, or from the point of view of preventing possible antitrust practices.

GINSBURG, LEVENTHAL, BROWN & MORRISSON,
Washington, D.C., April 27, 1959.

Hon. CLINTON P. ANDERSON,
Chairman, Joint Commission on Atomic Energy,
Washington, D.C.

DEAR SENATOR ANDERSON: I am writing you with respect to one provision of the bill proposed by the Atomic Energy Commission to amend the patent sections of the Atomic Energy Act. Section 7 of that bill would add to section 157 of the Atomic Energy Act, entitled "Compensation, Awards, and Royalties" a new subsection reading as follows:

"d. PERIOD OF LIMITATIONS.—Every application under this section shall be barred unless filed within six years after the date on which first accrues the right to such reasonable royalty, compensation or award for which such application is filed."

We represent the applicants in a presently pending proceeding for award under section 157 entitled "Application of Commissariat a L'Energie Atomique et al., Docket No. 18." The application for award was filed on October 20,

1954, and relates to five inventions, the rights to which are owned by Commissariat a L'Energie Atomique et al. (CEA)—the French Atomic Energy Commission, which is an agency of the Government of France. The inventions concern processes and devices for controlled generation of energy for peaceful purposes by nuclear fission and for an explosive nuclear device for use as a weapon. A motion to dismiss the application for award was filed on August 7, 1957, by the Office of the General Counsel of the AEC, raising procedural and jurisdictional contentions which we believe to be without merit. The motion was argued before the AEC Patent Compensation Board on February 5, 1958, and is presently pending. Four years of effort and heavy expenditure have gone into the preparation and submission of this case.

As we interpret the proposed new section 157d, it would apply prospectively only and would have no effect on applications filed prior to the date of enactment of the new subsection. Nothing in the section-by-section analysis prepared by AEC suggests an intent to apply the new subsection retroactively so as to bar claims already filed.

To apply the period of limitations retroactively so as to bar claims which were timely under the law as it existed when they were filed, would be manifestly unjust. However, the new subsection as worded does not expressly save applications already on file, but applies in terms to "every application under this section." To avoid any possible question we strongly urge, if section 157d is to be enacted, that the subsection be expressly limited to applications filed after the date of its enactment. This could be done by revising the opening phrase to read: "Every application hereafter filed under this section shall be barred," etc. Alternatively, the new subsection could be revised by adding, at the end thereof, "or years after the date of enaction of the subsection, whichever is later."

Possibly the same result could be achieved by an express declaration in the committee report that the section was not intended to affect applications already filed.

This is a matter of vital importance in our pending case and we should be happy to confer with the committee or the staff to submit any additional facts or background information you may desire.

Sincerely yours,

DAVID GINSBURG.

MACHINERY & ALLIED PRODUCTS INSTITUTE,
Washington, D.C., May 6, 1959.

Hon. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation,
Joint Committee on Atomic Energy,
Washington, D.C.

DEAR MR. HOLIFIELD: In accordance with Mr. Ramey's letter of April 25 in response to my telegram of April 22, copy enclosed, the Machinery & Allied Products Institute and its affiliate organization, the Council for Technological Advancement, are privileged to submit the attached statement in letter form.

It is requested that this statement, addressed to the principal issues involved in the proposed extension of the patent provisions of the Atomic Energy Act, the subject of hearings by the Subcommittee on Legislation of the Joint Committee on Atomic Energy on April 23, be given consideration by the Joint Committee and be included as a part of the record of the pertinent hearings.

May I take this opportunity to make a further suggestion in line with our telegram of the 22d of April. Your opening statement at the hearings and Mr. Ramey's letter of April 25 both appear to reflect your feeling that industry has evidenced a limited interest in the impact of the patent provisions of the Atomic Energy Act. On the contrary, it is our judgment that there is wide interest in these provisions and that the failure of business, either in terms of individual companies or of organizations representing industry, to request opportunity to be heard on a broad basis is due to understandable reasons.

In the first place, this is a highly complex subject ordinarily requiring expertise available only to professionally trained and a limited number of individuals. In addition to the limited number of possible witnesses, frequently when hearings of this type are held the timing is not convenient for the individuals or organizations which might wish to appear. Also, certain of the materials which were developed at the request of the committee were not published in time for ade-

quate study by interested witnesses. This is not intended to reflect any criticism on the handling of these publications but merely to record the fact of the matter.

With these points in mind, and with the overriding objective of getting the important issues invloved in these patent provisions fully ventilated and the views of interested parties on the record, we should like to renew our request that consideration be given to further public hearings at a later date but before the distinguished Joint Committee finalizes its views. If such hearings are granted we will undertake through the facilities of MAPI not only to provide direct testimony in behalf of the Institute but we would also try to organize a panel of interested industry representatives who might be in a position to approach these problems on a practical and experienced basis. This would be directly responsive to your comment that the Joint Committee would like to hear from "people in industry who are working directly in the new atomic development field."

In any case, may we extend our deep appreciation for your cooperation in holding the record open for the attached statement.

Respectfully,

CHARLES W. STEWART, *President.*

MACHINERY & ALLIED PRODUCTS INSTITUTE,
Washington, D.C., May 6, 1959.

HON. CHET HOLIFIELD,
Chairman, Subcommittee on Legislation, Joint Committee on Atomic Energy, Congress of the United States, Washington, D.C.

DEAR MR. HOLIFIELD: We have received Mr. Ramey's letter of April 25 indicating that the record of recent hearings on atomic energy patent matters is to be held open until May 7 and extending to the institute the opportunity of filing a statement of its views for inclusion in that record. We appreciate your courtesy in this matter.

As you may know, the Machinery & Allied Products Institute is an organization of capital goods and allied equipment manufacturers, national in scope, which includes within its membership many of the principal Atomic Energy Commission contractors, subcontractors, and licensees as well as numerous manufacturers of reactor components and related equipment used in the rapidly developing atomic energy industry. Our affiliate organization, the Council for Technological Advancement, is especially concerned with national policies which inhibit technological advance.

This statement is addressed primarily to broad policy questions and attempts to point up basic principles which we feel should govern national policy and legislation in the area of atomic energy patents. We have, however, consulted with patent experts in industry on those questions which involve technical patent problems. We feel compelled to make known our views on this subject because of convictions as to basic principle. It should be added, however, that many capital goods companies have made heavy commitments in the atomic energy program and we therefore have a reservoir of experience upon which to draw.

For future use we are engaged in a rather detailed survey of member companies involved in the atomic energy program, with a view to obtaining, among other things, additional information on the impact on those companies of chapter 13 of the Atomic Energy Act of 1954. Unfortunately this study will not be completed in time to meet the subcommittee's May 7 deadline, but based on information already furnished us we believe it will confirm the views and experiences reported here. We are therefore availing ourselves of your invitation to present the general views of the institute on certain aspects of the problem which we believe have not been fully ventilated in committee hearings, and, in addition, we undertake to make certain specific recommendations for legislative consideration.

OUR APPROACH TO THE PROBLEM

We concede at the outset that the special character of the subject matter and the unusual security problems surrounding the origin of the atomic energy program undoubtedly required certain statutory safeguards of an unprecedented character. It is perfectly true, moreover, that the development of the atomic energy program since the days of the Manhattan Engineer District has been very largely financed from public moneys.

As a further part of the institute's approach to this question, we think it must be conceded that the Atomic Energy Commission, exercising the mandate given it by section 141b of the Atomic Energy Act, has done an altogether commendable job of disseminating technological and scientific information developed under AEC contract work. Finally, we are inclined to concede without argument that—for the present at least—a statutory prohibition against the issuance of letters patent on any device or invention useful solely in atomic weapons is a proper and desirable requirement.

These general observations are important to our statement only insofar as they provide a background for the institute's approach to the present problems.

In addition to these general observations—and consistent with the stated purposes of the act as they apply to the subject here under study—we should like to pose certain fundamental questions which we believe provide a necessary framework for consideration of the atomic energy patent provisions:

1. Is not the most important question now before the committee how best to attain maximum technological advance, particularly for peacetime applications, in the atomic energy field?

2. Do the patent provisions of the act in their present form and in the form proposed for extension carry out or impede this overriding objective?

3. To what extent do these patent provisions tie in with developments in other Government areas? In other words, are these provisions part of a developing pattern which has serious implications for technological progress in other new fields such as astronautics—or in technologies as yet unimagined—in which the Government has a direct and proper interest?

THE AMERICAN PATENT SYSTEM AND THE PATENT PROVISIONS OF THE ATOMIC ENERGY ACT

As other witnesses have suggested in open hearings before this subcommittee, and as our own questions above also suggest, it would be inappropriate to consider chapter 13 of the Atomic Energy Act of 1954 without relating its provisions to the long-established American patent system. The essence of the American patent system has consisted in the incentive it provides to invention and creation because of the rewards offered under a limited patent or copyright monopoly. The patent provisions of the Atomic Energy Act represented an abrupt departure from that tradition. The administration now proposes, however, to continue these differences in philosophy for at least another 5-year period and perhaps indefinitely into the future.

This basic difference in philosophy is emphasized, moreover, by adoption of the National Aeronautics and Space Act of 1958 providing patent provisions similar to those in the Atomic Energy Act. We acknowledge that, insofar as the patent provisions of the National Space Act and the Atomic Energy Act require the Government to take full title to inventions developed under Government research, they are generally consistent with the recommendations of the 1947 Report of the Attorney General to the President on this subject.[1]

The Atomic Energy Act, in addition, contains a special feature—that of compulsory licensing under which a holder of a basic atomic patent may be directed by the Commission to license other commercial firms to practice the invention. Both of these unusual features of the Atomic Energy Act's patent provisions are to be contrasted with the well-established administrative policy of the Department of Defense, which permits the granting of letters patent to an inventor—even under Government-sponsored research projects—subject only to the reservation to the Government of a nonexclusive, royalty-free license to practice or cause to be practiced the subject invention by or for the U.S. Government throughout the world.

We suggest this difference between the Atomic Energy Commission and Department of Defense policies only to emphasize our conviction that the Department of Defense has adopted the most practical longrun approach to the problem. By exercising restraint in its demands for the acquisition of full title to inventions developed under defense contracts the military agencies have succeeded in doing their job of securing the national defense without at the same time destroying contractor incentive for further scientific and technical advances.

We have not always been completely in agreement with the Department of Defense policy in this field, particularly insofar as it involves acquisition by

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[1] "Patent Policies and Practices of Government Departments and Agencies Relating to Inventions of Their Employees and Contractors."

contract of patented or unpatentable background "know-how," but we believe the general patent policy of the Department of Defense is better calculated to serve the public interest over the long pull than is that set out in the Attorney General's report and now embodied in the atomic energy and space statutes. Because of our conviction on this point, we believe the question of whether or not the time has now arrived to place the Atomic Energy Act upon the same or a similar path by appropriate amendment of chapter 13 is quite possibly the most important question now before the subcommittee. The consideration of legislative timing is made even more critical by the fact that legislative action at this time may have the most profound and far-reaching effects on the future course of developments in a whole range of explosively expanding technologies in which the Government is interested for reasons of national security and national prestige.

THE PRESERVATION OF PRIVATE INCENTIVE

We think no one will seriously dispute the proposition that the American patent system has been one of the foundation stones of our unprecedented industrialization. To hobble, perhaps in the long run to destroy, this source of private incentive as it applies to an industry of such magnificent peaceful potential as atomic energy is a step not to be taken lightly, and we ask most respectfully that the members of this subcommittee consider further the possible effect on private incentive of the action here proposed.

In adopting the full-title-to-patents or compulsory-licensing provisions of the Atomic Energy Act, the committee evidently proceeded on the theory of attempting to avoid a "preferred position" for certain large Atomic Energy Commission contractors. We acknowledge that there may have been some basis for such action 10 years ago, but we are inclined to believe that the risk—as the Commission and certain testimony conceive it—is a continually diminishing one. On the other hand there is a real possibility that a different kind of preferred position may be created in the absence of real patent protection. We shall have considerably more to say on the so-called "preferred position" argument at a later point in our statement.

It has been argued by Government witnesses that the compulsory licensing provisions of the Atomic Energy Act are no more than a "reserve power" and have in fact never been employed by the Commission. Moreover, it is argued that the Government has available to it the possibility of relief under existing antitrust legislation—where there has been found to be an unlawful combination in restraint of trade—and that the existence of this more general authority reduces the significance of the compulsory licensing provision. We must respectfully disagree. Let us consider these arguments separately.

Relief by injunction under antitrust legislation.—Assuming a legislatively proscribed combination in restraint of trade, the Government may obtain as one form of affirmative relief a court-directed licensing of patents involved. This is, of course, general legislation and, assuming the existence of all conditions necessary to such an action may be employed by the Government in any appropriate situation. By contrast the compulsory licensing provision of the Atomic Energy Act, although not yet used, comes very close to constituting class legislation and to that extent a special disincentive to further advancement of the art and to attraction of capital necessary for the private exploitation of atomic energy's industrial potential.

Atomic energy patents as a bar to further progress.—The Government in testimony before this subcommittee acknowledges that the compulsory licensing provisions of section 153 of the act are not necessary for the Government because it may "use any patented invention and the owner's sole remedy is to sue for reasonable royalty or just compensation in the Court of Claims * * *." This clearly protects the Government so far as its use of a patent is involved; in addition, in the case of private parties there is the relief mentioned above.

As for the possibility of a holder of a patent in the atomic energy field blocking further progress in the art, it seems to us that the almost inevitable inhibition of incentive arising from this provision will serve to frustrate the very purpose for which the provision was created in the first place. The whole record of industry's ingenuity in "designing around" supposedly basic patents would seem to raise doubt as to how "basic" such patents actually were—and particularly in such a relatively new field as atomic energy.

Further—and having in mind the first of our general questions on this subject—would not the forcing of new avenues of approach to problems covered by basic patents lead to a healthier condition in the industry and a more broadly based technology?

Continuance of section 153 in its present form would, in our judgment, serve further to reduce the incentive of Atomic Energy Commission contractors or subcontractors to contribute at private expense to the advancement of the art and it would seem to close the door almost completely to the customary incentive for actual or potential competitors to develop a process or device which accomplishes the end in view by a simplier, cheaper, or more efficient method.

The record of patents issued.—We are asked to believe that the compulsory licensing provision of section 153 has had no disincentive effect because the power has never in fact been exercised. An examination of the record of patent applications filed and patents issued in the reactor field—a field with which the institute by the nature of its membership has direct contact—raises serious doubt about the validity of the argument. From August 1, 1946, through 1957, 555 applications for patents in the reactor field have been filed by persons—including corporations—other than the Atomic Energy Commission. During this same period of time, covering somewhat more than 11 years, not 1 single patent has been issued in the reactor field to a person other than the Atomic Energy Commission.[2] Obviously the "reserve power" of compulsory licensing could not have been applied in the absence of the very thing to which it applies. Even as to those areas of technology in which patents have been issued the argument that the compulsory licensing authority has not been used evades the merits of the question.

The "preferred position" argument.—Among the arguments advanced for a 5-year retention of a slightly modified chapter 13 is the suggestion that any basic change in the present statute—or to be more precise a return to the traditional American patent system—would tend to insure a "preferred position" for a relatively small group of large Atomic Energy Commission contractors. We have already taken note of this argument and we propose now to examine it in detail.

There may be some risk of a preferred position, but if the risk exists it is a risk created by the actions of the Government itself as well as by the industrial facts of life. The Atomic Energy Commission at the outset of our nuclear energy program contracted, quite logically, with the fairly limited number of manufacturers in the chemical and power equipment fields since the preexisting technologies of those industries—developed by private capital—were best suited to the expeditious development of atomic energy. To this extent Government capitalized on private know-how; atomic energy technology has been grafted onto prior industrial knowledge in such fields as chemistry, metallurgy, and boilers.

It is now argued that the extension of section 153 would leave such companies in a preferred position in respect to basic patents, technical know-how, and the possession of technically trained and practically experienced staff. All of these assets were necessary to the performance of contracts let by the Atomic Energy Commission and the Government now stands in the position of charging such contractors with occupying a preferred position—which, if it exists at all, exists as a result of the Government's own acts.

Beyond this we are not at all certain that the present circle of Atomic Energy Commission contractors and subcontractors is quite so small as the Commission would have us believe; indeed our own experience with interested members of the Machinery Institute would indicate that there is a continually enlarging number of contractors and subcontractors working for the Atomic Energy Commission on all types of projects. Moreover, the Commission's own very commendable policy in the declassification and dissemination of scientific and technical information in the field has done much to provide for an equalization of knowledge in this field.

Prior art.—Among the several disincentive features of chapter 13 of the Atomic Energy Act none constitutes a more formidable disincentive, in our judgment, than section 155, which bars the granting of a patent on any device for the production or utilization of special nuclear material or atomic energy where information pertaining to the device is in the possession of the Atomic Energy Commission, but has not been published or patented for reasons of security. Obviously no private enterprise is anxious to commit risk capital to the development of new art when it faces the prospect of losing all rights in its invention by reason of a possible future claim of "prior art." In our specific recommendations which follow we have suggested what we believe to be a reasonable method of removing this substantial drag on further progress.

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[2] These figures have been taken from pp. 59–60, vol. 1, of "Selected Materials on Atomic Energy Patents," published by the Joint Committee on Atomic Energy, March 1959.

We strongly recommend that the subcommittee give this issue special study.

The effect of chapter 13 on smaller businesses.—We are convinced that continuance of chapter 13 of the Atomic Energy Act in its present form will have some of its most serious effects on small and medium-sized manufacturing companies interested in the atomic energy field and that the "preferred position" of present large contractors and subcontractors—if indeed they occupy such a position—will in fact be enhanced. This danger arises in our judgment from two sources—one statutory and one administrative. Present law, by discouragement of incentive under Atomic Energy Commission sponsored work and the uncertainties it creates in attempting to obtain clear title to a patent in the field, has effectively destroyed the one position—a strong patent position—from which small and medium-sized manufacturers can hope to compete effectively with the very large corporations. This is not to say we believe smaller companies should have any special preference accorded them under our patent system; we do, however, object to extension of a statute which effectively deprives them of equal opportunity under that system.

Secondly, the procurement policy of the Atomic Energy Commission—a policy which consistently demands and obtains contract performance at considerably less than true cost—can lead only to an ever-narrowing circle of participants in the atomic energy program. This circle will be composed entirely of those with the greatest financial resources. As to this procurement policy of the Commission—about which we have no slightest doubt on the basis of extensive member company experience—it is, we think, a shortsighted policy because of its almost inevitable effect in driving small- and medium-sized companies out of the business, and it is a particularly mischievous one because its administration in the past has been sweetened by assurances that in accepting loss contracts manufacturers would obtain valuable know-how in an important new field of technology. Now the possession of such know-how is cited as a "preferred position" justifying further extension of the statute.

The availability of capital for the private exploitation of atomic energy.—Our political and economic system assumes the exploitation by private capital of technologies useful for peaceful ends and, as we have pointed out above, one of the foundation stones of the entire structure is the American patent system.

The holder of a basic patent which gives promise of profitable exploitation is granted an exclusive right to practice the invention patented for a period of 17 years. The fact is of course that such is the ingenuity of industry that within a relatively short period of time—assuming the genuine usefulness of the device patented—competitive but noninfringing devices will have entered the market by the process of "designing around" the original patent. At most the patentee has 17 years in which to recoup his development costs, earn a return on capital invested, and place himself in a position to manufacture his own invention thereafter on a competitive basis; as a practical matter—such is the speed with which competition outmodes processes and products—the period will probably be far shorter.

Consider the situation which we have outlined above as it is affected by chapter 13 of the Atomic Energy Act. The commitment of private capital to further development in atomic energy is faced with a whole series of pitfalls built into the basic legislation itself. The Commission may under some circumstances claim full title to the invention developed at private expense. Alternately, it may direct the inventor—if he does finally succeed in obtaining a patent—to license the practice of his invention by a competitor, thus reducing or eliminating completely the period of time in which he might have expected to recover his development costs and to make a return on the capital initially invested. Again, he may be faced with a claim of "prior art." In sum, the several disincentive features of the present act to which we have referred tend to reduce or obliterate any incentive for private capital to bring about a rapid, competitive, and profitable exploitation of atomic energy's industrial potential.

Such is the long-range promise of atomic energy that numerous companies have already invested substantial sums of private capital in development of new art and acquisition of know-how either by way of direct investment in research and production facilities or by subsidy of the Atomic Energy Commission program through assumption of losses on Commission contracts. Although substantial by individual company standards—and, indeed, remarkably substantial in view of the statutory disabilities faced by the investors—these investments are wholly insufficient to accomplish a rapid, competitive, and profitable exploitation

of atomic energy's industrial potential. Moreover, even this source of investment may tend to dry up if chapter 13 of the Atomic Energy Act is continued in its present form, and, as for additional private investment in an amount necessary to accomplish a broad scale exploitation of atomic energy, we think this would be most unlikely.

PRIVATE VERSUS PUBLIC DEVELOPMENT OF ATOMIC ENERGY

One of the stated purposes of the Atomic Energy Act of 1954 is to "strengthen free competition in private enterprise." With this statement of purpose we are wholeheartedly in agreement. We call attention to it because of the belief that further extension of chapter 13 of the act in its present form would not serve that purpose, and would, in fact, render a distinct disservice.

We cannot believe that the subcommittee would intentionally advance the cause of public ownership of productive resources—including patent rights—or that it would seek purposefully to place impediments in the path of industrial development of atomic energy by private enterprise. The effects of continuing this departure from the normal patent system are such, however, particularly when viewed in the broader perspective of events taking place elsewhere in Government, that we are seriously concerned at the possibility of our backing unintentionally into a form of basic industry that is at best hybrid in character—part Government and part industry controlled—and at worst might be almost wholly dominated by the Government.

We have already mentioned the patent provisions of the National Aeronautics and Space Act, patterned for the most part on similar provisions of the Atomic Energy Act, adopted in a most unusual manner with no recorded legislative history and without public hearings. Having this in mind, it should be remembered that the Atomic Energy Act's patent provisions broke new ground in departing from the traditional patent system of the United States. Those provisions, with some additions, have been once extended. To extend them further might lead in the future to a virtual subversion of the American patent system.

THE PROBLEM OF FOREIGN PATENTS

The Commission has indicated that it not only does not discourage U.S. nationals from filing patent applications in foreign countries, but that it urges such foreign filings as soon as possible. Although this statement may reflect official Commission policy, as a practical matter there are a number of disabilities—resulting both from the express terms of the statute and the realities of business life—which stand in the way of filing applications for foreign patents.

If we may, we would like briefly to review the procedures which must be followed by an American company which "makes an invention or discovery useful in the production or utilization of special nuclear material or atomic energy." Initially, a report covering such an invention or discovery must be filed with the Commission, under the provisions of section 151c of the act. At about the same time the company will probably file an application for a U.S. patent with the Patent Office. Section 152 of the act requires the Patent Office to refer information regarding such an application to the Commission, which may acquire title if it deems such invention to have been made or conceived under any contract, subcontract, arrangement or other relationship with the Commission. The Commission of course has the authority to waive title under such circumstances as it deems appropriate.

Accordingly, the company is faced with a very difficult decision. It may go forward and file foreign patent applications and incur the substantial expense connected therewith, subject to a substantial possibility that it may be required to assign title to such foreign patents to the Commission. On the other hand, the company may withhold foreign filings until the title question is settled by the Commission. It should be noted at this point that the Commission will not often waive its rights under section 152 until the patent is ready to issue. It seems clear therefore that a very considerable amount of time, probably a number of years, may elapse before the company may apply for foreign patents with any degree of assurance that it will be able to attain title to such patents. In the meantime there is the obvious risk that a foreign company will independently conceive the same invention and thus bar the American company from gaining any foreign patents. Moreover, the International Convention for the Protection of Industrial Property requires that a prospective patentee who has filed his application in the United States shall have a period of 1 year in which to apply for patent protection to any other convention country.

As a practical matter, then, the American company is forced to enter the foreign market without patent protection. At this time such a company may be able to sell its products in spite of greater manufacturing costs, because of superior American technical skills, at least with respect to certain applications, as reflected in product design. But it is common knowledge that foreign nuclear equipment manufacturers are fast catching up with existing American design superiority. Thus, within a few years at the most, the American company, without a patent position and its resultant exclusive rights, will have no effective bargaining apparatus with which to secure a position by sale, license agreement, or otherwise in that foreign market. As a practical matter, then, chapter 13, by its uncertainties and its "reserve powers," prevents an American manufacturer from establishing a secure market position abroad quite as effectively as it does for the same reasons in the United States. For these reasons we respectfully request the subcommittee to make an intensive study of the effects of the statute as it now stands—including the virtually unlimited dissemination worldwide of technological and scientific information—upon incentives for American companies with respect to foreign markets. Furthermore, it should be noted that the arguments which the Commission makes regarding the necessity for Government ownership of patents in the domestic market (the validity of which we do not concede) obviously do not apply to the foreign situation simply because the Commission would not be risking possible infringement suits against it if it did not hold title to foreign patents.

SPECIFIC RECOMMENDATIONS

Our specific recommendations for amendment of chapter 13 of the Atomic Energy Act appear below.

Our primary concern, as indicated above, lies with the substantive provisions of chapter 13 of the Atomic Energy Act of 1954, as amended. We also suggest, however, that the subcommittee consider the problems of uncertainty that are created for atomic energy industry generally, because of the frequently vague and indefinite language contained in chapter 13, and more particularly in sections 151 and 152.

Military utilization (sec. 151)

This provision broadly prohibits the granting of patents for any invention or discovery which is useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon. In addition, under subsection c persons, who might make an invention or discovery useful in the production or utilization of special nuclear material or atomic energy generally, are required to report such inventions or discoveries to the Commission.

We recommend that section 151 be amended as follows:

1. The word "useful" as employed in reference to the "utilization of special nuclear material or atomic energy" is obviously vague. It is possible to conceive of any number of items which are essentially standard commercial items in character and which are not primarily concerned with atomic energy but which, nevertheless, are useful in connection with atomic energy. We suggest that this criterion be changed to read "any invention or discovery which employs special nuclear material or atomic energy." Such language would, in our judgment, encompass that category of items with respect to which reporting to the Commission might be deemed desirable.

2. Under subsection c reports are requested from any person who has made any such invention or discovery. Industry has encountered difficulty with the use of the term "made," which has no particular significance in general patent law. There is no further indication in the statute of when an invention is made. We suggest that the word "made" be deleted in favor of "first reduced to practice." Moreover, first reduction to practice might be defined to include, in the alternative, either first successful operation of the invention or discovery, or first filing of a patent application on an invention or discovery with the Patent Office.

3. We concur in the Commission's recommendation that the required report covering any such invention or discovery be submitted within 180 days rather than within 90 days as under present law.

4. We also concur with the Commission's recommendation that a new subsection e be added to section 151, which would require that reports filed with the Commission pursuant to that section be kept confidential. However, we note that under these recommendations information concerning such reports might be released under "such special circumstances as may be determined

by the Commission." We suggest that consideration be given to the insertion of suitable statutory criteria to furnish guidance to the Commission with respect to any such determination.

Inventions conceived during Commission contracts, subcontracts, arrangements, or other relationships (secs. 152 and 159)

Under this provision any atomic energy invention made under any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether there has been any expenditure of Government funds, is deemed to have been made or conceived by the Commission. The Commission, however, is granted the authority to waive its claim to any such invention under such circumstances as it may deem appropriate.

The Atomic Energy Commission has wisely, in our judgment, recommended to the subcommittee some limitations on this extremely broad grant of authority which has been well described by its sponsor as going much further than was ever intended.[3] However, the Commission's recommendations do not go nearly far enough. It is difficult to conceive of justification for Commission acquisition of title to inventions resulting from an AEC relationship, when there is no use of either Commission funds or property. It must be remembered that patents are only granted for a particular contribution of the inventor over prior art. It seems clear that the only rationale for Commission acquisition of title to contractor patents occurs when there has been a use of AEC funds or property in connection with the circumstances which gave rise to the invention.

Assuming then that the Commission should take title to patents on inventions made through the use of Government funds, we make the following minimum recommendations for amendment to section 152:

1. The first sentence of the section, which was intended merely to establish a procedural device for quick title determinations with respect to patents, should be deleted. Adequate authority would remain under section 159 and the general provisions of the act for the Commission to continue to acquire patents to research and development contractor inventions.

2. The term "useful" should be deleted in favor of the term "employs," as explained in the discussion under section 151.

3. The terms "made or conceived in the course of, in connection with, or under the terms of any contract" contained in the second sentence of section 152 should be amended to conform with the corresponding language "made or conceived under any contract" as contained in the first sentence of that section.

4. The wording "any contract, subcontract, arrangement, or other relationship with the Commission regardless of whether the contract or arrangement involved the expenditure of funds by the Commission" should be deleted and in its place should be substituted the following language: "under any contract for the performance of experimental, developmental or research work, or under any subcontract for the performance of experimental, developmental or research work." The words "experimental, developmental or research work," appear, of course, in the Armed Services Procurement Regulation and are reasonably well understood by both Government and industry.

We feel that the amendments suggested above are sufficient to protect the public interest if the Congress decides that the Commission should continue to acquire title to patents on AEC research and development contractor and subcontractor inventions.

In this connection we are fully cognizant of the 1947 recommendations of the Attorney General that the Government should own patents on work for which it has paid. The difficulty with the 1947 recommendations, we feel, results from the fact that the ultimate objectives of national patent policy have not been fully clarified. Certainly, it may be argued that the Government-contractor relationship in a technical sense is somewhat analogous to the employer-employee relationship under which the employer may be entitled under an employment agreement to his employee's inventions. It should be noted, however, that in the absence of an express agreement the employer would normally be entitled only to a royalty-free nonexclusive license for employee inventions within the scope of his employment.

The basic question is not whether the Commission is legally entitled to its contractor inventions—rather is it wise in the public interest to have its acquire absolute title? We cannot overemphasize our view that the prime necessity in

[3] W. Sterling Cole "Patenting Nuclear Developments," *Nucleonics*, January 1955 through April 1955 (reprint).

atomic energy today is to develop the field as quickly and as economically as possible. We feel that as a matter of national policy the experience of the Department of Defense regarding contractor inventions is crucial. That experience, going back over many years, includes the present-day procurement of highly novel weapons systems and the Department clearly feels that the mere reservation of an irrevocable royalty-free license is sufficient to protect the Government's interest.[4]

We are sure you will recall the very interesting testimony of Admiral Mills, stating the reasons for this policy, before the Joint Committee in its June–July 1953 hearings on atomic power dovelopment and private enterprise.[5] The basic question, we submit, is the same for both the Commission and the Department of Defense—what policy will lead to rapid development and improvement of inventions and discoveries? We feel sure that our industrial history indicates that it is the policy of granting patents to the inventor who will, through the exclusivity attached to his patent rights, exploit his invention as effectively as possible.

For these reasons we recommend repeal of both sections 152 and 159 of the act.

Compulsory licensing and monopolistic use of patents (secs. 153 and 158)

The Commission has recommended that the present provisions under which it may declare atomic energy patents to be affected with a public interest, and direct compulsory licensing of other private parties, be extended until September 1, 1964. These provisions are currently due to expire on September 1 of this year.

The Commission bases its recommendation on the fact that compulsory licensing tends to preclude "the possibility of enlarging the preferred position of a limited number of companies, many of whom have developed their experience (in the atomic energy field) at public expense." The "preferred position" argument and our objections to the compulsory licensing provision are dealt with at length above in our general comments.

We should reiterate, however, that it seems evident that the very real concern expressed by industry respecting compulsory licensing is not fully understood. The basic question here, as it is with title to contractor patents, is one of incentives. However, there are also very strong considerations of equity that should not be disregarded. When a company conceives or makes an atomic energy invention with its own funds, under present law it normally may secure a patent on this invention. However, section 153 inhibits exploitation of such inventions to a very significant degree. The fact that the inventor may be compelled by the Commission to license other parties to use his invention clearly may control that inventor's basic decisions with regard to further development and subsequent marketing of the invention.

The basic issue is this. The invention has been made or conceived in most instances only through the investment of a considerable amount of private capital. If the inventor, once he has obtained a patent, may not rely upon the exclusivity attached to his patent (which is the case when he may be subjected to compulsory licensing) he will not in most cases be in a position to sell his invention or products based upon that invention at a price sufficient to enable him to recover his "development" investment over the period of the 17-year life of his patent. This serious disincentive feature of AEC compulsory licensing has been aptly described by Mr. Casper W. Ooms of the AEC Patent Advisory Panel as a "violation of the essential conception of a patent system."[6] Moreover, you will recall, we feel sure, the very serious doubts that have been expressed regarding the constitutionality of section 153 by, among others, former Joint Committee Chairman W. Sterling Cole on the floor of the House.[7]

If the subcommittee decides as a matter of policy that section 153 should be extended, we strongly urge that such extension be limited to 2 years. In view of the very serious potential effects of section 153, which we have attempted to indicate above, we feel that 2 years at most will be sufficient to clarify the problems which will arise from the existence of this provision.

Monopolistic use of patents.—The obvious connection between section 153, discussed above, and section 158 leads us to a brief discussion of the latter section at this point. The Commission has recommended repeal of section 158.

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[4] Armed Services Procurement Regulation, sec. IX, pt. 1.
[5] See hearings, p. 192.
[6] "Selected Materials on Atomic Energy Patents," vol. I, p. 30.
[7] See 100 Congressional Record A5356.

With that recommendation we concur. Moreover, we are constrained to suggest that the availability of relief under antitrust legislation, adduced by the Commission as a sufficient reason for the repeal of section 158, applies equally to the problems sought to be overcome by section 153. Hence, we renew our recommendation for repeal of section 153 as well as 158.

Prior art (sec. 155)

The present statute states that the fact that an invention or discovery was known or used before, even though such prior knowledge of use was under secrecy within the atomic energy program of the United States, shall be a bar to the patenting of such invention or discovery.

The Commission has recommended certain amendments to this provision which we feel do not meet the real issue. Under the provision as presently worded, companies may spend thousands of dollars on research and development in a particular field in atomic energy and discover, upon filing of a patent application, that the basic patentable information was already owned by the Atomic Energy Commission. Under the security program of the Commission, however, this company would be in no position to know prior to the expenditure of its funds that it might be barred from acquiring a patent on any resulting inventions. We emphasize that we are concerned here with the expenditure of private and not Government funds.

Clearly, this provision as presently worded presents a severe obstacle to the expenditure of private funds on atomic energy development.

There is no apparent reason why the Commission should not be able to rely on its own efficient Patent Branch to evaluate the technical information received under chapter 13 of the act, and to file patent applications on behalf of the Government where desirable (which it may do even though the information involved is classified for security reasons). The Commission would then have a defense against possible infringement suits and the public interest would be adequately protected.

For these reasons we recommend that section 155 be repealed. The objectives of this policy can be reasonably accomplished through the evisting section 102 of the Patent Act of 1952, together with the reporting requirements of an amended section 151c of the Atomic Energy Act of 1954. Upon repeal of section 155, an inventor will be unable to obtain a patent only when it would be reasonably possible for him to ascertain that his invention is already known.

This concludes our statement on the patent provisions of the Atomic Energy Act now under study by the subcommittee. May we again express our appreciation for your courtesy in holding the record open to receive this and other statements on this question. Let me assure you also of the Institute's desire to cooperate in any way possible in the subcommittee's study of the atomic energy patent problem.

Respectfully,

CHARLES W. STEWART, *President.*

STATEMENT OF PAUL R. AMES

My name is Paul R. Ames. I am a graduate chemical engineer from the California Institute of Technology and have a law degree from George Washington University. During the time I was studying law, I worked in the U.S. Patent Office as a patent examiner. Since 1926, I have been concerned with the practice of patent law and with corporate patent problems. This statement is presented by me as a citizen of the United States very much interested in its progress in the peaceful uses of atomic energy, and in its patent system as a stimulus to the creation and disclosure of inventions. I am also very much concerned at the trend of recent legislation in withdrawing or withholding the incentive effect of our patent system from important branches of scientific progress.

It is felt that the members of the Joint Congressional Committee on Atomic Energy, in determining whether legislation would be advisable at this time in connection with the patent clauses of the act, will have to answer two important questions: (1) Whether they consider the U.S. patent system to be of importance as an incentive to the creation and disclosure of new inventions, and (2) if that answer is in the affirmative, whether they think it desirable to withhold any part of that incentive from our activities in the atomic energy field.

The Atomic Energy Act of 1946 was enacted at a time when there was a great deal of mystery and hysteria about atomic energy and its possible effect upon our lives. Many who have been closely connected with our patent system, and have felt its importance as an incentive to scientific development, have regretted the fact that that act almost completely removed he incentive of that system from the important field of atomic energy.

The Atomic Energy Act of 1954 made a considerable advance in removing some of the restrictions upon this incentive but that act still retains a number of serious limitations upon the effectiveness of our patent system in his field.

In the 1954 act, the limitations upon the application of the patent system to nonweapon developments were, to some extent withdrawn. This was an important step in the right direction. The act gave to the Atomic Energy Commission broad powers to waive its rights in respect of inventions. But, unfortunately, since the enactment of that act, very little use has been made of such waiver powers by the Atomic Energy Commission. So far as I know, the only published waivers have been (1) with regard to radioisotopes and radiation services purchased from Atomic Energy Commission installations, and (2) with regard to the access program of the AEC.

A primary value of our patent system is to make more attractive the investment of risk capital in new fields of endeavor. Such endeavors usually result in numerous failures for the accomplishment of a single success, and adequate return from the success is essential in order to maintain a healthy atmosphere for further investment. If the results of such successes are not protected, those results can be exploited by competitors, who have not made the investment required to develop the success. This protection is of particular importance to small investors and small companies in order that they may exist and grow in competition with established companies.

It is important, therefore, that, if the Joint Congressional Committee on Atomic Energy agrees that the U.S. patent system is important as a stimulant to the making and disclosing of inventions, it should take positive steps at this time to make sure that such incentive is made fully available in the field of atomic energy.

In order to do that, it is felt that the following changes should be made in the act to return the normal incentive of the patent system to the field of atomic energy. These changes will be referred to in what is considered to be their order of importance.

1. It is believed to be of primary importance that section 152 be deleted in its entirety. That section provides that inventions useful in the production or utilization of special nuclear material or atomic energy, which are made or conceived in the course of any contract, subcontract, arrangement, or other relationship with the Commission shall be deemed to have been made or conceived by, and shall belong to, the Commission.

It is recognized that under certain circumstances, for example, where the background material was paid for by the Government and the full cost of research work is also paid for by the Government, inventions resulting therefrom should become the property of the Government. There are a great many other situations, however, where the background information has been obtained at the expense of the contractor, and the payment by the Government may be only for the man-hour and material costs involved in solving a particular problem for which the Atomic Energy Commission desires to have the background material and experience used. In those cases, the inventions should not become the property of the Commission. No provision in the law is necessary to take care of such disposition of rights, as may be equitable. Such rights as should be received by the Commission and by the contractor can be taken care of by contract regulations under the Commission's operations, just as is done by other contracting departments of the Government. It is believed important for the Congress to make it clear that it has not given a mandate that the Commission should retain title to all such inventions. This can best be done by deletion of the provision which gives such title to the Commission and letting the normal patent laws and contract negotiations apply, in arriving at the disposition of patents in different situations.

This is of particular importance in view of the fact that the language of section 152 of the act is so broad as to cover arrangements or other relationships with the Commission. This would mean that inventions of personnel loaned by companies to the Commission, to serve on committees on which their employer's background information would be useful, would become the property of the Gov-

ernment. The inventions involved include those which are useful in the production and utilization of atomic energy. This would include instruments, apparatus, and products useful for that purpose, but also useful for other purposes, which might be the main business of the employer. It is quite obvious that with such a provision in the law, companies would be very reluctant to make their more valuable employees available to the Commission for such services.

Section 152 also requires any inventor, if requested by the Commissioner of Patents, to report the facts surrounding the making or conception of any invention useful in the production or utilization of special nuclear material or atomic energy. This requirement puts a heavy burden on inventors in this field and upon the Patent Office, which is already very seriously overburdened with expenses. As indicated above, in view of the breadth of the language used, this requirement might even cover, for example, an instrument, product or piece of apparatus that would be useful in such operations, as well as useful for many other purposes. There is no more reason for requiring such reports in this field than in any other fields and to apply this requirement to all fields would place tremendous additional burdens upon the Patent Office and upon inventors. It is believed, therefore, that section 152 should be deleted in its entirety.

2. Section 155 also should be deleted in its entirety. That section applies a special provision to the effectiveness of prior art knowledge and use, which have been maintained secret under the atomic energy program of the United States, as a bar to the issuance of a patent in this field. An individual or company considering investing in research activities in this field could very well be deterred from doing so by that provision, since inventions made as a result of its expenditure might be unpatentable because of a special rule with regard to a vast amount of secret knowledge and use in that field. No such rules have been, or should be, applied to other secret knowledge and it is unsound to apply them here where advance is so important and the difficulties of obtaining risk capital are already greater than in most fields. It is believed important that the same rules, as to prior art knowledge and use, should be applied to inventions in this field as in any other field. It is felt, therefore, that section 155 should be deleted.

3. Section 151 is entitled, and primarily related to military utilization. Paragraphs (a) and (b) completely withdraw from atomic weapons the incentive value of the patent system. There is no necessity for doing this since, under 28 U.S.C. 1498, the Government already has the right to use, or have used for it, any patented inventions. The only recourse of the patent owner is by a suit in the Court of Claims for payment of a reasonable royalty for such use. Also, our security laws are adequate to protect any required secrecy in this field. It is difficult to see why the full benefit of the patent system should not be made available as a stimulant to advance in the very important field of atomic weapons.

Section 151 also requires the reporting to the Atomic Energy Commission, or filing a patent application, on any invention or discovery useful in the production or utilization of atomic energy, whether or not it has any connection with a Government contract. It is believed that this provision is an infraction of the private rights of an inventor since the inventor might prefer to keep the information secret. Therefore, this requirement amounts to a taking of property without due process of law. Such a requirement is not justified because of national defense or welfare of the public. It is very burdensome to the Patent Office and to inventors to have to comply with such a requirement. It often necessitates the inventors making such a disclosure, or application for patent, before the invention or discovery has been developed to a point where an adequate disclosure can be made, thus adding to the burden of the Patent Office and to the cost to the inventor. It is believed, therefore, that section 151 should be deleted in its entirety.

4. Section 153 provides for the compulsory licensing of certain patents which the Commission declares to be effected with a public interest. Compulsory licensing has been repeatedly considered and turned down by Congress as not in the best interests of our patent system. Such a provision, with regard to future patents in this field, is believed to be a deterrent to investment of money and effort in the atomic energy field. When this provision was included in the act, the circumstances were very different from today, and it is believed no longer necessary or advisable to continue the practice with regard to future inventions. However, since it only applies to patents, the applications for which

have been filed before September 1, 1959, and such deterrent effect it might have upon the making of inventions or investments in this field has probably already taken place, little harm would result from continuing this provision provided no extension is made in the date referred to in paragraph (h). In this event, sections 154, 156, and such parts of 157 as shall apply to section 153 should be retained.

5. With regard to section 158, it is unnecessary to have any special provision regarding monopolistic use of patents in this field since our normal antitrust laws are adequate to cover such uses as well as uses in other fields. It is felt, therefore, that this section should be deleted in its entirety.

6. The substance of section 160 should be retained with proper revisions to extend it for 1 year after the enactment of the new act as applied to patents theretofore denied under sections 151 or 155 of the act.

7. Section 159 is unnecessary and might be misconstrued to imply that the Commission should require assignment of patents to the United States. There is no justification for any such special rule in this field and that section should be deleted.

It is urged that the best interests of the United States will be served if the Joint Congressional Committee on Atomic Energy would propose and sponsor legislation to delete from chapter 13 of the Atomic Energy Act of 1954, sections 151, 152, 155, 158, and 159 and to make appropriate amendments to the other sections in view of these deletions. With respect to section 153, no extension of the date provided for in paragraph (h) should be made.

NORTH AMERICAN AVIATION, INC.,
Los Angeles, Calif., May 15, 1959.

Hon. CHET HOLIFIELD,
House of Representatives,
Washington, D.C.

DEAR MR. HOLIFIELD: There are attached copies of a statement setting forth the views of North American Aviation, Inc., on the atomic energy patent legislation which is currently before the Joint Committee.

I regret that it was not possible for a representative of our company to testify in person at the recent hearings held on this matter by the Joint Committee. I do appreciate the opportunity afforded us of submitting a written statement for the record of the proceedings of the committee.

Respectfully yours,

J. L. ATWOOD, *President.*

STATEMENT BY NORTH AMERICAN AVIATION, INC., ON ATOMIC ENERGY PATENT LEGISLATION

Patents in the atomic energy field have long been a subject of serious study and controversy. U.S. manufacturers have been greatly concerned with the influence of patent factors on the growth of a sound industry. In order to help in evaluating the legislative possibilities before the Joint Committee, we would like first to examine briefly the history of patents in the nuclear energy field. Then proposed legislation will be examined, and the last part of this statement will consider the pressing foreign patent problem.

ORIGINAL BASES OF PATENT PROVISIONS

The original Government contract policy concerning patents and the patent provisions of the Atomic Energy Act of 1946 were largely dictated by the express public policy of creating a Government monopoly in atomic energy in the interest of public safety, and in the hope of obtaining international control. Another factor which influenced the patent provisions of the Atomic Energy Act and Government contract policy was the limited number of contractors participating in secret programs, which generated the fear that a small class would unfairly divide a profitable treasure. These factors were influential in bringing about, for the first time in our history, patent legislation directed to a single technology. This had the effect of denying to the patent system its traditional creative role in the development of a new technology. In contrast, foreign patent laws are not known to contain any special atomic energy provisions.

CHANGED SITUATION

Any reasons which may have existed for special treatment are now believed to be long past. The Atomic Energy Act of 1954 sought to end the Government monopoly over atomic energy and encourage private participation in nuclear energy development. The AEC has reported that there has been a total of 2,580 prime contracts and 5,751 subcontracts containing patent provisions. There are today over 1,400 holders of civilian access permits for use of technical information and over 4,000 isotope users.

NO DEMONSTRATED NEED FOR PATENT LEGISLATION

It is our firm belief that there is no demonstrated need for special patent legislation in the atomic energy field. The AEC can protect rights of the Government by contractual provisions, as in the past, in the absence of patent legislation. The technical nature of nuclear energy inventions is no different from other inventions for which patents are sought, and there is no need for the examination or regulation of patents by special laws. The incentives and stimuli of the patent system are sufficient to bring forth inventions, and to promote their disclosure and utilization; the general antitrust statutes and equity principles are adequate to control any misuse.

GENERAL TEST FOR LEGISLATION

The general test commonly used in examining any proposed patent legislation, and which we urge upon the Joint Committee, is that any variant to the time-tested patent system of promoting industrial progress in a private enterprise framework should have its need firmly rather than conjecturally established before being enacted or continued.

ALTERNATE SOLUTION

Short of total repeal of the patent chapter, attention should be directed toward ameliorating the more damaging features, leaving sections which are superfluous or unnecessary for later attention. We specifically endorse, as an interim measure, the passage of the amendments proposed by the former chairman of the Joint Committee, Mr. W. Sterling Cole, in his bill H.R. 600 in the 85th Congress.

OBSTACLES TO PRIVATE RIGHTS

Before turning to a specific examination of proposed changes in the patent chapter, it is helpful to review briefly the immense number of hurdles now presented to the acquisition and use of private patent rights in the nuclear energy field. The private party must successfully clear every hurdle or he is lost. The first hurdle in the way of acquiring patent rights is the provisions of AEC contracts. If an inventor makes an invention privately, without AEC sponsorship, he must nonetheless either report the invention to the AEC or have the patent application given to the Commission for examination, under the provisions of section 151, which denies the traditional secrecy protection available to inventors. The loss of secrecy at this point may well lead to the loss of proprietary rights. The applicant's next hurdle, if he persuades the Patent Office that he has an invention, is to swear that he did not make the invention under an "arrangement" with the Commission, entitling the Commission to the patent, though the invention was made without Commission funds (sec. 152). Even if a patent is finally granted to the inventor, he still faces further obstacles to its effective use. An atomic energy patent is always under a cloud, because it is never known when some previously secret information of AEC will be unearthed to possibly challenge the patent under section 155, which is contrary to the general patent law. A final burden to the private patentee is the possibility of compulsory licensing on a privately developed invention, which diminishes a patentee's negotiating position, since his exclusionary power has been removed.

It is submitted that the foregoing hurdles are cumulatively such as to suppress effectively the acquisition and utilization of private patent rights in the atomic energy field to the detriment of nuclear energy development.

SPECIFIC SECTIONS

Section 152

Turning now to consideration of chapter 13 and of the AEC legislative proposals, our greatest concern is with respect to section 152. It is deceptively entitled "Inventions Conceived During Commission Contracts," but its actual substantive effect ranges far beyond this, to ensnare inventions made under vague arrangements with the Commission not involving the expenditure of Government funds. Mr. Casper W. Ooms, former Commissioner of Patents and Chairman of the AEC Patent Compensation Board and of the Patent Advisory Panel, has called it "the most mischievous" provision of the act.

Since the rights of AEC can be and are protected by contract, total elimination of section 152 is recommended. At the minimum, it should be limited as proposed in Mr. Cole's bill, H.R. 600, to delete the presumption of Government ownership, and properly restrict the section to protect the Government's contractual rights as originally intended.

Proposed AEC change to section 152 still more restrictive

The proposed modification to section 152 by AEC would, if adopted, make the section more burdensome, while at the same time adding nothing in the public interest. The AEC draft bill varies from the advice of its eminent Patent Advisory Panel to either delete or drastically modify the section. AEC would change the presumption of Government ownership of all inventions made under contracts or arrangements with AEC into an absolute rule of law, without removing the provision which entitles acquisition of inventions where no Government money was involved. Another serious modification proposed by AEC would deny the applicant's present administrative remedy in the Patent Office in the event of a dispute over patent ownership. It would require the applicant to bring within 30 days a civil suit against the Government in the District Court of the District of Columbia. The net effect of this provision would be to create possibilities of arbitrary or confiscatory action, since the only remedy is the bringing of expensive litigation.

The present section 152, and the AEC bill as well, permits the Commission to waive its claim in any invention "* * * under such other circumstances as the Commission may deem appropriate." The Commission in the past has stated "No criteria or standards for waivers are set forth to guide the Commission, other than providing that the Commission may waive rights to such inventions under appropriate circumstances." (Joint Committee Print, "Selected Materials on Atomic Energy Patents," vol. 1, p. 134.) Since the Commission in the past has felt the need for guidance from the Joint Committee on the criteria for the exercise of its waiver power, it is recommended that such be considered by the Joint Committee in drafting any new legislation.

COMPULSORY LICENSING FUNDAMENTAL DEPARTURE

The compulsory licensing provision, section 153, represents a fundamental departure in our patent system and is a violation of the essential concept of a patent system. Mr. Ooms remarked, in his legislative proposals to AEC, "Since it is for industrial protection that this extremely limited compulsory licensing has been provided for, and industry's thoughtful study has led to a unanimous condemnation of the provision, the risk [from revocation] may be negligible." Section 153 is not required for the benefit of the Government, since existing statutory provisions provide a compulsory licensing in behalf of Government. The Patent Advisory Panel recommended either deletion or revision of section 153.

NO "INSIDERS" TO GUARD AGAINST

The Commission's reason for continuing compulsory licensing—to guard against preferred patent positions by the so-called insiders—is not supported by available facts. Firstly, no contractor of AEC acquires patent rights under AEC contracts. Therefore, any patents which he may acquire are based only upon work at his own expense. The technical information developed in AEC programs is freely available to everyone, and may be the foundation of future patent rights by others, since the Commission in its access permits waives claim to any resulting inventions. Furthermore, the large number of prime contracts and subcontracts which have contained patent clauses clearly indicates the size of industrial participation in nuclear energy development. The compulsory

licensing provision has never been applied, we believe, because there is no private patent position which requires it, and not because the presence of the provision in the act induced voluntary arrangements.

NO FACTUAL PROOF FOR COMPULSORY LICENSING

Before compulsory licensing is continued, since it unquestionably represents a variant in our traditional patent system, a clearly established factual need should be demonstrated. It is suggested that a breakdown of the number of privately filed and owned patent application patents relating to nuclear energy be obtained from the Patent Office to determine if there is any threat of patent concentration. The Patent Office could also examine pending applications to determine if there are basic patent applications which could dominate the industry.

We believe, however, that cross-licensing would be acceptable to American industry, if it were associated with the grant of patent rights under AEC contracts.

FEDERAL BAR ASSOCIATION ADDRESS

Dr. Chauncy Starr, general manager of Atomics International, made such a cross-licensing proposal in a recent address entitled, "The Manufacturer Looks at Proprietary Rights in Atomic Energy" before the Federal Bar Association in Washington, D.C. A copy of this address is enclosed. This address explored the interests of industry, the Government, and the Nation in the proprietary rights aspects of nuclear energy development, and sought to harmonize the legitimate requirements of each group.

INVESTMENT REQUIREMENTS

It was pointed out (p. 3) that in the nuclear technology field, the manufacturer must make a large investment not only in capital equipment and manpower, but also the investment of management skill, management labor, and accumulated know-how experience. From the end point of Government sponsorship to the time of public sales acceptance of a product, the manufacturer must make progressively larger investments unaided by the Government. However, while patent rights are generated during the earlier phases of a program, their purpose as an economic instrument, is to stimulate the later phase of manufacturing and marketing of new products.

PATENT MUST EARN OWN WAY

It is appreciated that the patent, of and by itself, has no necessary value, nor is any insurance of reward, since it cannot force the public to purchase a product in preference to other products. The patented product must pay its own way and have its value determined in the marketplace. Compared with other Government forms of encouragement of the nuclear industry, the patent costs the Government nothing, and serves only as stimulation for further investment and activity.

INTERESTS OF GOVERNMENT AND THE PEOPLE

Since the Government does not have the responsibility to market nuclear energy products, Government retention of patent rights vitiates the fundamental economic basis of the patent grant.

The public has an interest very similar to that of the manufacturer, in desiring to bring as rapidly as possible to the market the fruits of new technologies. The public investment in nuclear energy development will, therefore, be best realized by the most rapid commercialization of nuclear energy.

CROSS-LICENSING PROPOSAL

Our cross-licensing proposal would permit industry to retain title to proprietary information, with the Government being granted a royalty free license, and the remainder of U.S. industry being assured of licenses at reasonable royalty rates on a nondiscriminatory basis. This would provide industry with stimulation for investment and marketing, the Government with necessary defensive protection, and insure to the public availability of atomic energy products at minimum cost without creation of monopolies.

RESPONSE TO CROSS-LICENSING PROPOSAL

Wide distribution of copies of the address was subsequently made. The replies were strongly favorable, the great majority being in complete agreement, and only one was in disagreement with the objectives.

The strongly favorable response to our proposal leads us to offer it to the joint committee as an acceptable and practical solution to the compulsory licensing problem and to the problem of patent rights flowing from AEC contracts.

SECTION 155 PROBLEMS

Another serious provision of the present Atomic Energy Act is section 155. This section permits prior secret art to be cited against pending patent applications, and is in striking contrast with the general patent laws which stimulate public disclosures of technical developments, and does not permit suppressed information to be cited. The Patent Advisory Panel members voted to exclude section 155, or severely limit it to only a personal defenes to the Commission. However, the AEC draft bill extends it to invalidate an issued patent. The fundamental objection to section 155 is that it introduces unnecessary confusion into the status of private atomic energy patents; a cloud is cast over any patent because it is possible for hitherto secret information to arise from AEC files to haunt it.

SUMMARY ON LEGISLATION

It is firmly believed that the subject of nuclear energy patents should be returned to the healthy climate of the general patent statutes immediately. Only in this manner can the patent system serve its historical function of fostering new technology. The need for special patent legislation in the atomic energy field, is now deemed to be unnecessary and is not supported by factual data. At the minimum, attention should be devoted toward improving the worst sections of the statute, such as section 152.

FOREIGN PATENTS

Importance of foreign patents

The foreign patent situation is urgent and deserving of immediate attention from the Joint Committee. It is clear to those of us who are devoting our energies to the nuclear field that American companies must participate in commercial enterprises with governments and private interests throughout the world. Our industry cannot grow and prosper if we are to rely solely on the requirements within the United States. Everyone knows this. Consequently, U.S. industry should not be stiffled in its attempt to develop its activities abroad in his field. Encouragement of American investment abroad has traditionally been sought by the State Department as a means of fostering favorable political and economic relationships with the United States.

Foreign patents have always been taken out by American manufacturers to protect their entry into the foreign market. Foreign patents have many real and intangible benefits, including facilitation of license agreements, product protection, a bargaining weapon in litigation, and enhancement of sales appeal. This same protection should be available to those who are engaged in the nuclear field.

Government ownership of foreign patents of small value

None of the benefits of foreign patents accrue to American industry with Government ownership. The Government historically has never enforced its foreign patent holdings because of lack of economic interest, possible fear of adverse diplomatic reaction, and inflexibility in practical industrial negotiations.

The present situation poses a crucial question for the Joint Committee: What use is to be made of foreign patents acquired by the Government? If only defensive protection is sought, it may be seriously asked whether foreign patents should be obtained at all. Publication of an invention serves much the same purpose as defensive patenting, since publication generally serves as an immediate bar to patenting, and thereby removes infringement risks.

Foreign governments follow aggressive patent programs

In contrast with American practice, foreign governments, including those which are in direct competition with private American firms, are following vigorous patent programs in other countries to further their commercial interests.

Attached hereto is a summary of nuclear energy patents which have been granted in Belgium, France, Germany, Spain, and Italy through the past year. This table conclusively demonstrates the extremely active patent programs of the French and British Governments. The patents granted to the English Government and industry are several times larger than those granted to American concerns; and this evidence becomes even more striking when it is noted that the British effort is but a fraction of ours. Since it is stated policy of foreign governments to charge for the use of inventions, American firms desiring to use any such inventions will have to negotiate without any effective bargaining portfolio of their own.

Immediate problem in Germany

The activities of foreign governments have been brought into sharp definition in Germany. Very basic nuclear reactor patents of Frederick Joliot-Curie and his colleagues, assigned to the French Commissariat a l'Energie Atomique, have been extended in Germany until the late 1960's under a special wartime moratorium provision. This has created a difficult problem in current sales activities in Germany of large nuclear powerplants. One German affiliate of an American company has already come to agreement with the Commissariat. The same French inventions have also been the subject of current litigation in the courts of the United States, and are the basis of a suit pending before our Patent Compensation Board. We do not know of any plans for the AEC to use its patents in behalf of industry to counter the patents of the Commissariat.

Cross-licensing proposal applies to foreign patents

It is believed that the interests of Government and industry in foreign patents can be satisfied under our cross-licensing proposal. The retention of a license by the Government for governmental and mutual defense purposes would furnish sufficient flexibility, and licenses would be available at reasonable royalty rates to other American firms. The grant of foreign patent rights to industry would provide incentive and compensation for the costly procedure of obtaining, maintaining, and defending foreign patents. Practical and effective use of the patents could be made under private ownership, which is inherently not possible under Government retention. Increased stimulation for investment in the foreign markets, where the normal risks incident to commercial activities in foreign countries are severely compounded by third party liability and product warranty risks, would result. Furthering American commercial interests abroad is a sure way of bringing the benefits of atomic energy to foreign countries at the earliest time, in accordance with our diplomatic goals, and of compensating the American Nation for our investment in the development of atomic energy.

Atomic energy patent search

	Germany, through Mar. 12, 1959 [1]	France, through Jan. 31, 1959 [2]	Belgium, through January 1959	Spain, through Apr. 5, 1959	Italy, Mar. 1, 1957, to Apr. 30, 1958	Total
British Government	8	10	84	20	20	142
British industry	14	21	78	53	30	196
Total	22	31	162	73	50	338
French Government	5	25	88	8	6	132
French nationals		33			2	35
Total	5	58	88	8	8	167
German nationals	92	9			7	108
American Government	4		36	3	4	47
American industry	13	18	41	14	9	95
Total	17	18	77	17	13	142
Other governments	13	15	15	5	2	50
Miscellaneous	14	32	97	22	2	167
Total	163	163	439	125	82	972

[1] Patents and published patent applications.
[2] Search apparently directed specifically to nuclear reactors.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington D.C., June 8, 1959.

Hon. CLINTON P. ANDERSON,
Chairman, Joint Committee on Atomic Energy,
The Capitol, Washington, D.C.

DEAR SENATOR ANDERSON: I am attaching hereto copy of a letter from one of my constituents, Mr. William L. Hunter, 33 Wildwood Road, Katonah, N.Y., with reference to the provisions in the Atomic Energy Act relating to patents.

Your consideration of his suggestions and a reply to me will be very much appreciated.

With kind regards, I am
Sincerely yours,

EDWIN B. DOOLEY.

KATONAH, N.Y., *June 7, 1959.*

Subject: Patent Provisions of (1) Atomic Energy Act, chapter 23, title 42, United States Code; (2) National Aeronautics and Space Act, Public Law 85-568.

Hon. EDWIN B. DOOLEY,
House of Representatives,
Washington, D.C.

SUMMARY

DEAR MR. REPRESENTATIVE: The patent provisions of each of the subject acts, should be amended in accordance with the principles of the armed services procurement regulations so as to permit inventors to retain their patent rights consistent with national security. Such amendments, it is believed, would encourage, rather than stifle, scientific progress in these two fields which are so important to our country.

The last hundred years has seen the development in our country of the greatest industrial machine in the world today, fostered to no small extent by the incentives granted by our patent system. In recent years a small group of people, some of them well intentioned, have taken the first steps toward removing these incentives. These people, while giving lip service to the virtues of the patent system, have succeeded, under the guise of national defense and military security, in pushing through Congress two laws each of which removes the rewards for scientific progress in just those fields where progress is most vital to our Nation—the development of atomic energy and the exploration of space.

The so-called Atomic Energy Act, chapter 23 of title 42, United States Code, especially subchapter XII, has been carefully drafted and its provisions are somewhat hidden. However, some provisions are clear. Section 2181(c) states in part:

"Any person who has made or hereafter makes any invention or discovery useful (1) in the production or utilization of special nuclear material or atomic energy * * * shall file with the Commission a report containing a complete description thereof * * *."

Section 2182 states in part:

"Any invention or discovery, useful in the production or utilization of special nuclear material or atomic energy made or conceived under any contract, subcontract, arrangement, or other relationship with the Commission, regardless of whether the contract or arrangement involved the expenditure of funds by the Commission, shall be deemed to have been made or conceived by the Commission * * *."

The consequences of the above provisions are scattered throughout various sections but the net effect is that the Commission may do as it wishes with any such inventions or discoveries. Note the broad language 'useful in the production or utilization of special nuclear material or atomic energy." Is anything excluded? Included of course are inventions or discoveries pertaining to atomic power plants of all kinds, whether stationary or for vehicles. In view of these provisions, is it not obvious why so little progress has been made in the peaceful use of atomic energy? From the viewpoint of the prospective inventor or discoverer, whether individual or corporate, why should he devote his time, money and effort to the field of atomic energy, when other fields offer the promise of rewards under the patent system?

The National Aeronautics and Space Act, Public Law 85-568, has been drafted in a more straightforward manner but is equally objectionable. Section 305(a) states, in part:

"Whenever any invention is made in the performance of any work under any contract of the Administration * * * such invention shall be the exclusive property of the United States * * *."

Section 305(c) states, in part:

"No patent may be issued to any applicant other than the Administrator for any invention which appears to the Commissioner of Patents to have significant utility in the conduct of aeronautical and space activities unless the applicant files * * * a written statement executed under oath setting forth the full facts concerning the circumstances under which such invention was made * * *."

Section 305(d) states, in part:

"Upon the application as to which any such statement has been transmitted to the Administrator, the Commissioner may, if the invention is patentable, issue a patent to the applicant unless the Administrator * * * requests that such patent be issued to him on behalf of the United States * * *."

Section 305(f) states, in part, that the Administrator "* * * may waive all or any part of the rights of the United States under this section * * *."

The above excerpts suggest, and close study confirms, that the act as a whole makes the Administrator a despot, giving him all rights to inventions although permitting him, at his whim, to return certain rights to the inventor to whom they really belong in the first place. Let me add that I have no quarrel with the present Administrator since I believe he is doing a fine job considering that he is required to work under a bad law.

If these two laws, the Atomic Energy Act and the National Aeronautics and Space Act, are not amended, I fear that there will be an increasing reluctance on the part of industry to accept contracts with these agencies. And this is just the beginning. There is a movement on foot to standardize the laws of all Government agencies relating to patent rights and you may rest assured that the people responsible for the Atomic Energy Act and the National Aeronautics and Space Act will make every effort to see that one of them serves as the model for any uniform act proposed.

Let me close with a constructive suggestion. Both the armed services and industry have found that the Armed Services Procurement Regulations (ASPR) provide a fair and reasonable basis for the determination of patent rights. These regulations normally give the Government a free license, which is all that it requires or can use, while permitting the contractor to retain the commercial rights in his inventions. Hand in hand with these regulations go the provisions of chapter 17 of title 35, United States Code, which makes adequate provision for the necessary secrecy of certain inventions. I urge you to do all you can to amend the patent provisions of both the Atomic Energy Act and the National Aeronautics and Space Act to bring them in line with the provisions of the Armed Services Procurement Regulations.

Very truly yours,

WILLIAM L. HUNTER.

(Thereupon, at 12:15 p. m., Thursday, April 23, 1959, the hearing was concluded.)

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